```
Minimum DB seq length: 0
Maximum DB seq length: 2000000000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Title:
Perfect score:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         OM nucleic - nucleic search, using sw model
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Database :
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first.45 summaries
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Total number of hits satisfying chosen parameters:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Scoring table:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Sequence:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Run on:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Searched:
                                                                                                                                                                                                                                                                                                                                                                                                                                                  GenEmbl:*
1: gb_bal:*
2: gb_ba2:*
3: gb_ba3:*
                                                                  10:
11:
12:
13:
14:
15:
16:
16:
17:
17:
17:
18:
19:
20:
20:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                IDENTITY_NUC
Gapop 10.0 , Gapext 1.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  US-09-382-242-23
555
1 ATGTCTTTAAACAAGCACTC.....AATCATACACTAAACGATAG 555
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          May 30, 2001, 21:49:06; Search time 1167.42 Seconds (without alignments) 7011.240 Million cell updates/sec
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1283235 seqs, 7373929652 residues
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           GenCore version 4.5
Copyright (c) 1993 - 2000 Compugen Ltd.
                                                                                                                                                                                                                                                                                                                        gb_pat1: *
gb_pat2: *
gb_ph: *
gb_pl1: *
gb_pl2: *
gb_pl3: *
                                                                                                                                                                                                                     em_fun:*
em_htgo_hum:*
em_htgo_inv:*
em_htgo_rod:*
em_htg_hum1:*
em_htg_hum2:*
                                                                                                                                                                                       em_htg_hum3:*
em_htg_hum4:*
em_htg_hum5:*
                               em_hum5:*
em_hum6:*
em_hum7:*
                                                                                                                                                                                                                                                                                                   gb_p14:*
em_ba1:*
         em_in:*
em_om:*
                                                                                                                                                               em_htg_hum6:*
em_htg_hum7:*
                                                                                                                                                                                                                                                                                         em_ba2:*
em_or:*
                                                                em_hum4:*
                                                                            em_hum3:*
                                                                                                                                 em_htg_inv2:*
                                                                                                                                            em_htg_inv1:*
                                                                                                                                                       em_htg_hum8:*
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        2566470
```

5482109876	71. 72. 73. 74. 76. 77. 78. 80. 81. 82. 83. 84.	0 4 8 9 9 9 9 9 9 9 9 9 9 9 9 9	40070001607
			em_ov em_ph em_pl em_rov em_sy em_un em_vi gb_st
****	**************		* * * * * * * * * * * * * * * * * * * *
	·		

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

## SUMMARIES

Result

Result No	o t	Score	Query Match	Query Match Length DB	DB	ID	Description
C	_	48.2	8.7	217412	69	AC024400	AC024400 Homo sapi
C	N	47.8	8.6	14001		PFCOMPIRB	x95276 P.falciparu
C	ω	47.6	8. 6	192929	60	AC005505	AC005505 Plasmodiu
O	4	47.6	8.6	256172	60	AC005139	AC005139 Plasmodiu
G	ഗ	47.6	8 6	310779	60	AC005140	AC005140 Plasmodiu
O	σ	47.2	8.5	108908	σ	PFMAL3P8	.AL034560 Plasmodiu
	7	47.2	8.5	298469	4	AE003846	AE003846 Drosophil
	æ	45.6	8.2	21595	64	AC014617	AC014617 Drosophil
a	9	45.6	8.2	193742	82	AL513530	AL513530 Homo sapi
G	10	45.2	8.1		σ	DDU68754	U68754 Dictyosteli
	11	45	8.1	179401	62	AC010903	AC010903 Homo sapi



RESULT 1 AC024400/c LOCUS DEFINITION ACCESSION VERSION KEYMORDS SOURCE ORGANISM REFERENCE AUTHORS TITLE JOURNAL REFERENCE AUTHORS AUTHORS		0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
ACO24400 217412 bp DNA HTG 13-JUL-20 ACO24400 2I:7767819 ACO24400 ACO24400 BI:7767819 ACO24400 BI:7767819 ACO24400 BI:7767819 ACO24400 BI:767819 BI:7618 BI:76	ALIGNMENTS	44.8 8.1 84346 67 ACO21920 44.4 8.0 27694 11 HASMT 44.4 8.0 185926 71 ACO279391 44.2 8.0 118313 85 ACO23991 44.2 8.0 118313 85 ACO23991 44.2 8.0 204652 84 PFMAL13P6 44.4 7.9 45565 8 FRISLUTI 44.4 7.9 45565 8 FRISLUTI 44.7 9 45565 8 FRISLUTI 44.7 9 158004 70 ACO26839 43.8 7.9 14001 6 PFCOMPIRB 43.6 7.9 14001 6 PFCOMPIRB 43.6 7.9 14401 6 PFCOMPIRB 43.6 7.9 1421 6 PFCOMPIRB 43.6 7.9 1827 6 PFSTARP 43.7 7 18 16932 12 AF083031 43.2 7.8 16932 12 AF083097 42.8 7.7 149789 60 ACO07926 42.8 7.7 10492 60 ACO05504 42.6 7.7 10493 60 ACO05
HTG 13-JUL-2000  -PASS SEQUENCE SAMPLING.  iata; Vertebrata; Euteleostomi; rrhini; Hominidae; Homo.  nd Lander, E., Abraham, H., Allen, N.,  Beda, F., Boguslavkiy, L.,  G., Campopiano, A., Castle, A.,  S., Collymore, A., Cooke, P.,  Dodge, S., Domino, M., Doyle, M.,  W., Forrest, C., Gage, D.,  W., Forrest, C., Gage, D.,  Jones, C., Kann, L., Karatas, A.,  Jones, C., Kann, L., Karatas, A.,  Lehoczky, J., Levine, R.,  Lehoczky, J., Levine, R.,  Lehoczky, J., Levine, R.,  McPheeters, R., Meldrin, J.,  McPheeters, R., Meldrin, J.,  Menga, V., Morrow, J., Naylor, J.,  Pollara, V., Raymond, C.,  y, A., Santos, R., Schauer, S.,  ann, N., Scojanovic, N.,  e, S., Theodore, J., Tirrell, A.,		AC021920 Homo sapi D31785 Pichia cana AC027632 Homo sapi AC003991 Human BAC AL049183 Plasmodiu AL425139 Clone BAO AL021531 Fugu rubr AC026839 Homo sapi AC001366 Plasmodiu AC021920 Homo sapi X95276 P. falciparu X95276 P. falciparu AF209925 Plasmodiu AF209925 Plasmodiu Z26314 P. falciparu AF2083031 Guillardi AC014157 Plasmodiu U87145 Toxoplasma AC084397 Trypanoso AL110675 Botryris AC007926 Trypanoso AC007926 Trypanoso AC007926 Trypanoso AC007926 Trypanoso AC011718 Homo sapi AC011718 Homo sapi AC013394 Homo sapi AC01392832 T3 end of AF104350 Dictyoste X75653 Astasia lon AC024860 Caenorhab
		TITLE JOURNAL COMMENT

of.

745

in length

```
Submitted (28-FEB-2000) Whitehead Institute/MIT Center for Genome Research, 320 Charles Street, Cambridge, MA 02141, USA On May 10, 2000 this sequence version replaced gi:7108401. All repeats were identified using RepeatMasker: Smit, A.F.A. & Green, P. (1996-1997)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     http://ftp.genome.washington.edu/RM/RepeatMasker.html
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Direct Submission
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Travers,M., Trigilio,J., Vassiliev,H., Viel,R., Vo,A., Wilson,B., Wu,X., Wyman,D., Ye,W.J., Young,G., Zainoun,J., Zimmer,A. and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   zody, M.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            overlap relationships among clones to be deduced. However, it should not be assumed that this clone will be sequenced to completion. In the event that the record is updated, the accession number will
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      NOTE: This record contains 242 individual sequencing reads that have not been assembled into contigs. Runs of N are used to separate the reads and the order in which they appear is completely arbitrary. Low-pass sequence sampling is useful for identifying clones that may be gene-rich and allows the contraction of the sampling is useful for identifying clones that may be gene-rich and allows
                       15219 15318: gap of 100 bp 15319 16081; contig of 763 bp 16082 16181; gap of 100 bp 16182 16943; contig of 762 bp 16944 17043; gap of 100 bp 17044 17768; contig of 725 bp
                                                                                                                                      11028 11797: contig of 770 by
11798 11897: gap of 100 bp
11898 12659: contig of 762 bp
12660 12759: gap of 100 bp
12760 13535: contig of 776 bp
13536 13635: gap of 100 bp
13636 1455: gap of 170 bp
14356 1455: gap of 100 bp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Center: Whitehead Institute/ MIT Center for Genome Research
Center code: WIBR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Web site: http://www-seq.wi.mit.edu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                preserved.
                                                                                                                                                                                                                                                                          10073
10173
10928
                                                                                                                                                                                                                                                                                                                                                                      8382 8481:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          716 815: gap of 100 bp
816 1554: contig of 739 bp in length
1555 1654: gap of 100 bp
1655 2421: contig of 767 bp in length
                                                                                                                                                                                                                                                                                                                                                                                                          0/09: contig of 7
10 6809: gap of 100
0 7579: contin - 7
9 7670
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    0 5079: y-,
5839: /
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                3371:
                                                                                                                                                                                                                                                      11027: gap of
11797: con
                                                                                                                                                                                                                                                                                      10072: contig of 753
10172: gap of 100 k
10927: contig of 755
                                                                                                                                                                                                                                                                                                                      9319: gap of
10072: cor
               17868:
                                                                                                                                                                                                                                                                                                                                                                                                      7679:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  2521:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    4216:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1: gap of 3271: con
                                                                                                                                                                                                                                                                                                                                                    11: gap of
9219: con
                                                                                                                          55: gap of 100 bp
15218: contig of 763 bp
                                                                                                                                                                                                                                                                                                                                                                                       9: gap
8381:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     4979:
58: gap of
18613: con
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   4116:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             715: contig of 715 bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  gap
                                                                                                                                                                                                                                                                                                                                                                                                     100 l
contig of 770
of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    100 bp contig of 760 c
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                of 100 by contig of 763
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              of 100 bp contig of 745 bp in length
                                                                                                                                                                                                                                                                                                                                                      of 100 bp
contig of 738 bp in
                                                                                                                                                                                                                                                                                                                                                                                     contig of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                of 100 bp contig of 750 bp in
                                                                                                                                                                                                                                                                                                                                                                             100

702
                                                                                                                                                                                                                                                                                                                         100 bp
of 753 b
                                                                                                                                                                           100 bp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    of 760 bp in
100 bp
                                                                                                                                                                                                          100 bp
                                                                                                                                                                                                                                                                          100 bp
                                                                                                                                                                                                                                                                                                                                                                                                                    770 bp in
                                                                                                                                                                                                                                                                                                                                                                                                                                                   770 bp in
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      bp
763 bp in
                                                                                                                                                                                                                                                                                        5 bp in
                                                                                                                                                                                                                                          g
                                                                                                                                                                                                                        bp in
                                                                                                                                                                                                                                                        bp in
                            bp in length
                                                            đđ
                                                                                            ď
                                                                                                                          đđ
                                                                                                                                                          đđ
                                                                                                                                                                                        đđ
                                                                                                                                                                                                                                                                                                                       bp in
                                                                                                                                                                                                                                                                                                                                                                                     bp in
                                                                                            'n
                                                                                                                            ä
                                                                                                                                                          Ín
                                                                                                                                                                                          'n
                                                              'n
                                                            length
                                                                                            length
                                                                                                                            length
                                                                                                                                                          length
                                                                                                                                                                                          length
                                                                                                                                                                                                                        length
                                                                                                                                                                                                                                                        length
                                                                                                                                                                                                                                                                                        length
                                                                                                                                                                                                                                                                                                                       length
                                                                                                                                                                                                                                                                                                                                                      length
                                                                                                                                                                                                                                                                                                                                                                                     length
                                                                                                                                                                                                                                                                                                                                                                                                                     length
                                                                                                                                                                                                                                                                                                                                                                                                                                                   length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 length
```

18713:

```
47693 47792:
                                                                                                                                                                                               4252 44351:
                                                                                                                                                                                                                                                                     2548 42647:
                                                                                                                                                                                                                                  3386 43485:
                                                                                                                                                                                                                                                                                                      1678 41777:
                                                                                                                                                                                                                                                                                                                                                                                                                                               290 38389:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               2 21251:
48653: gap of 49367: contig
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         34940:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   22972: gap of 3
23743: contig of
                                                                                        46942:
                                                                                                                                                              45208:
                                                                                                                                                                                                                                                                                                                                          40935:
                                                                                                                                                                                                                                                                                                                                                                          40107:
                                                                                                                                                                                                                                                                                                                                                                                                              39247:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  37500:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     36634:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        35774:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          34056:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              32378:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  30668:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       29795:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          28911:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              27224:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 26370:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    25543:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     24684:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        23843:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            22117
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                20428:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     19560:
                                                                                                                           46073:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             33208:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 31538:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             28080:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         4056: gap of 100 bp 34840; contig of 784 bp in length 4940: gap of 100 bp 35674: contig of 734 bp in length 15774: gap of 100 bp 15774: gap of 100 bp 100 bp
                                                                47692: con-
                                                                                                                                                                                                                                                                                 1935: gap of 100 bg
41677: contig of 742 k
1777: gap of 100 bg
42547: contig of 770 k
                                                                                                                                                                                                                                                                                                                                                    40835: cont
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     con
: gap of
26270:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        25443: 7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  22017:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  28811: cc
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      20328
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      300bbs: courty 100 bp
.68: gap of 100 bp in length
31438: contig of 770 bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        43: gap of
43: gap of
24584: contig of 741 bp
100 bp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    19460: c
                                                                                                                                                                                                                                                                                                                                                                          247: gap of 100 bp
40007: contig of 760 bp
107: gap of 100 bp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             170: gap of 100 bp
27124: contig of 754 bp
                               92: gap of 100 r
48553: contig of 761
                                                                                                      100 k
46842: contig of 769
                                                                                                                                        08: gap of 100 b
45973: contig of 765
                                                                                                                                                                          51: gap of 45108: contig
                                                                                                                                                                                                                                           47: gap of 100 bp
43385: contig of 738 bp
                                                                                                                                                                                                                                                                                                                                                                                                                           89: gap of 
39147: contig
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     37400:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             33956:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            78: gap of 100 bp
33108: contig of 730 bp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             32278: cont
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               95: gap of 100 x
30568: contig of 773
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  11: gap of 100 b
29695: contig of 784
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              27980:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    17: gap of 100 b
22872: contig of 755
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              28: gap of 
21151: contig
                                                                                                                                                                                                             44251: contig of 766 bp
                                                                                                                                                                                                                                gap of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               gap of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                gap of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         gap of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            gap of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                contig of 731 bp
                                                                                                                                                                                                                                                                                                                                                                                                                                                         p of 100 bp
contig of 789 bp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         p of 100 bp
contig of 748 bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          contig of 727
                                                                     contig of 750
                                                                                                                                                                                                                                                                                                                                                     contig of 728
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             contig of 740 bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            contig of 756
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             contig of 759
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           contig of 766
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               of 100 bp
contig of 766 bp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  contig of
                                                                                                                                                                          100 bp
of 757 bp
                                                                                                                                                                                                                                                                                                                                                                                                                           100 bp
of 758 bp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                of 723
   of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       100 bp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        100 bp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              100 bp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            100 bp
                                                                                                                                                          100 bp
                                                                                                                                                                                                                                100 ър
                                                                                                                                                                                                                                                                                                      100 bp
                                                                                                                                                                                                                                                                                                                                          100 bp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  100 bp
                    100 bp
                                                                     фþ
                                                                                                      đđ
                                                                                                                                                                                                                                                ďď
                                                                                                                                                                                                                                                                                                                                                         ф
                                                                                                                                                                                                                                                                                                                                                                                            bp in
                                                                                                                                                                                                                                                                                                                                                                                                                                                              đđ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   đđ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      đđ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       dq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                đ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   þ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       đq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        đq
                                                                                                                                                                                                                                                                                   þ
                                                                                                                                                                                                                                                                                                                      đđ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 þ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Ħ
                                                                                                                                         in
                                                                                                                                                                                                                                                    'n
                                                                                                                                                                                                                                                                                                                      in
                                                                                                                                                                                                                                                                                                                                                         in
                                                                                                                                                                                                                                                                                                                                                                                                                               'n
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     'n
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ä
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                'n
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     in
                                    'n
                                                                     in
                                                                                                        in
                                                                                                                                                                              in
                                                                                                                                                                                                             in length
                                                                                                                                                                                                                                                                                     'n
                                                                                                                                                                                                                                                                                                                                                                                                                                                              in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                length
                                                                                                                                                                                                                                                                                                                                                       length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   length
                                                                                                                                         length
                                                                                                                                                                                                                                                length
                                                                                                                                                                                                                                                                                   length
                                                                                                                                                                                                                                                                                                                      length
                                                                                                                                                                                                                                                                                                                                                                                            length
                                                                                                                                                                                                                                                                                                                                                                                                                           length
                                  length
                                                                     length
                                                                                                                                                                            length
```

```
Qy
                                                                                                                                                                                                                               망
₽
                                            밁
                                                                 QΥ
                                                                                         B
                                                                                                              Ω
                                                                                                                                     В
                                                                                                                                                          Q
                                                                                                                                                                                  В
                                                                                                                                                                                                                                                    Qy
                                                                                                                                                                                                                                                                           Matches
                                                                                                                                                                                                                                                                                                  Query Match
                                                                                         62660
                                                                                                                                      62720
                                                                                                                                                                                  62780
                                                                                                                                                                                                                               62840
                                                                   361
                                                                                                               302
                                                                                                                                                             242
                                                                                                                                                                                                         182
                                                                                                                                                                                                                                           122 CATTAAGCGATCTAGGACATGCTGTTTAAAAGCAGTGTTGCTCCAATATTCAATCTAGGTC 181
                     421
                                                                                                                                                                                                                                                                                        Local
TCATATATATTCATAATATATATTCAT 62512
                                         CATGTATAGATTCAGGATATCTTCATAATATATATGTTCGTCATATATTCATGATATATA 62781
                    GGTCATATTGCAATGTGGTATCTACACTT 449
                                                                                        TATTCATAATATATATCATATATATATTCATAATATATATATATTCAGTATATATTC
                                                                                                                                                          GAGTTAAAGGATCTTTAATCATATCCATGGGTGTATTTCTTAACTTAATAGGGGTTTTCG
                                                                                                                                                                                                       TTGCAATTGGTGGGATACTAATTGTTATAGTTGGTTTAAGAAATCTTTATTCGTGGAGTA 241
                                                              GCATATTTCATAGCTATATCAATACTTGACAAATCATGGATAGCTGTTCTACTAATAATA
                                                                                                              ACGAAGTATATGGTTGGATACAT-TTCCTAGTCTCAGTATTGTTTTTCTTATCAATAATA
                                                                                                                                                                                                                                                                           160;
                                                                                                                                                                                                                                                                                      Similarity
                                                                                                                                                                                                                                                                            Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           51908
                                                                                                                                                                                                                                                                                                                                               57852 57951:
                                                                                                                                                                                                                                                                                                                          58691
                                                                                                                                                                                                                                                                                                                                                                                                                                                    53695
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 51050 51149:
                                                                                                                                                                                                                                                                                                                                                                                                  29 52828: gap of 100 bp 15394: contig of 766 bp 155 53694: gap of 100 bp 155 53694: gap of 100 bp 155 53694: gap of 100 bp 155 5395: gap of 100 bp 156 55395: gap of 100 bp 156 55395: contig of 764 bp 156 55555.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           50297: gap (
                                                                                                                                                                                                                                                                                                                                                                     57128:
                                                                                                                                                                                                                                                                                                                       58790: gap
                                                                                                                                                                                                                                                                                                                                                                                         56259:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             52007: gap of 100 bp 52728: contig of 721 bp
                                                                                                                                                                                                                                                                                      8.7%;
48.6%;
                                                                                                                                                                                                                                                                                                                                                     57851: ^~-
                                                                                                                                                                                                                                                                                                                                57851: contig of 723 bp
151: gap of 100 bp
158690: contig of 739 bp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   49: gap of 100 b
51907: contig of 758
                                                                                                                                                                                                                                                                                                                                                                                 57028:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 50197: contig of 730
                                                                                                                                                                                                                                                                                                                                                                                         gap of
                                                                                                                                                                                                                                                                                                                                                        ap of 100 bp:
contig of 769 bp i
ap of 100 bp
contig of 723 bp i
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           p of 100 k
                                                                                                                                                                                                                                                                          Score 48.2; DB Pred. No. 1.5; 0; Mismatches
                                                                                                                                                                                                                                                                           0,
                                                                                                                                                                                                                                                                                                                         of.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                of 752 bp
                                                                                                                                                                                                                                                                                                                         100
                                                                                                                                                                                                                                                                                                                         ďď
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ďď
                                                                                                                                                                                                                                                                                                 DB
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      đđ
                                                                                                                                                                                                                                                                           168;
                                                                                                                                                                                                                                                                                                  69;
                                                                                                                                                                                                                                                                                                                                                                                 in
                                                                                                                                                                                                                                                                                                                                                                                                       ĺ'n
                                                                                                                                                                                                                                                                                                                                                                                                                                                  'n
                                                                                                                                                                                                                                                                                                                                   'n
                                                                                                                                                                                                                                                                                                                                                          'n
                                                                                                                                                                                                                                                                                                                                                                                                                             ij
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          'n
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               in
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      'n
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             in
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ä
                                                                                                                                                                                                                                                                                                                                                                                                    length
                                                                                                                                                                                                                                                                                                                                   length
                                                                                                                                                                                                                                                                                                                                                         length
                                                                                                                                                                                                                                                                                                                                                                               length
                                                                                                                                                                                                                                                                                                                                                                                                                           length
                                                                                                                                                                                                                                                                                                                                                                                                                                                  length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   length
                                                                                                                                                                                                                                                                           Indels
                                                                                                                                                                                                                                                                                               Length
                                                                                                                                                                                                                                                                                                  217412;
                                                                                                                                                                                                                                                                          1;
                                                                                                                                                                                                                                                                          Gaps
                                                                                                                                     62661
                                                                                                                                                           301
                                           62541
                                                                                                              360
                                                                                        6260:
```

ب,

```
REFERENCE
AUTHORS
                                                                                                                                                                                                                                                                                                                                     DEFINITION ACCESSION
                                                                                                                                                                                                                                                                                             VERSION
KEYWORDS
                                                                                                                                                                                                                                                                                                                                                                                                    RESULT 2
PFCOMPIRB/c
                                                                                                                                                SOURCE
                                                                                                                                                                                                                                                                                                                                                                                Locus
    TITLE
                                                                                                                          ORGANISM
                                                                                                                                     X95276.1 GI:1171591
Clp gene; LSU rRNA gene; ORF105; ORF129; ORF78; ORF79; ORF91; rp gene; rp116 gene; rp12 gene; rp123 gene; rp136 gene; rp14 gene; rp16 gene; rps11 gene; rps12 gene; rps17 gene; rps19 gene; rps19 gene; rps19 gene; rps3 gene; rps4 gene; RPS5 gene; rps7 gene; rps8 gene; tRNA-Asp; tRNA-Cys; tRNA-Gin; tRNA-Gin; tRNA-Gin; tRNA-Gin; tRNA-Fhe; tRNA-Fhe; tRNA-Fro; tRNA-Ser; tRNA-Thr; tRNA-Tyr; tufa gene.

malaria parasite P. falciparum.
                                                                                                                                                                                                                                                                                                                                       P.falciparum
X95276
                                                             Wilson, R.J.M., Denny, P.W.,
                                                                              Eukaryota; Alveolata; Apicomplexa; Haemosporida; Plasmodium 1 \cdot (\mathsf{bases}\ 1\ \mathsf{to}\ 14001)
                                                                                                                            Plasmodium falciparum
                                                                                                                                                                                                                                                                                                                                                                                PFCOMPIRB
                                         Roy,A., Whyte,A., Strath,M.,
                                                                                                                                                                                                                                                                                                                                                           14001 bp
m complete
  map
    of.
                                                                                                                                                                                                                                                                                                                                                        gene map of plastid-like
                                       Preiser,P.R.,
i., Moore,D.J.,
                                         Rangachari, K., Moore, P.W. and
  of
                                                                                                                                                                                                                                                                                                                                                      14-FEB-1997
DNA (IR-B).
  malaria
                                                          Roberts, K.
parasite
```

gene	tRNA	gene	trna	gene		trna	gene		intron	gene		tRNA	dene		tRNA	gene		tRNA					CDS	gene	gene		tRNA	gene	1	FRNA			source	COMMENT	JOURNAL	AUTHORS	MEDLINE	JOURNAL
/gender-transfer RNA-Tyr" /product="transfer RNA-Tyr" 14571541	1457. 1541 1457. 1541 /googs#+288-Firs#		13731452 /gene="trna-met (i)"	13181366 /gene="tRNA-Leu"	/note="extein 2" /product="transfer RNA-Leu"	13181366 /gene="trnA-Leu"	11841317 /gene="tRNA-Leu"	,		/product="transfer RNA-Leu" 1148. 1183		11481183 /gene="trnh-Leu"	/gene="tRNA-Cys"	uct="trans	10721142	/gene="tRNA-His"	duct="transf	9811053	YRE	/db_xref="SPTREMBL:025804" /db_xref="SPTREMBL:025804"	/protein_id="CAA64576.1" /db_xref="cT:1171592"	/gene="rps4" /codon_start=1	/gene=_rps4" 340, .966	340966		/gene="transfer RNA-Thr"	/gene="LSU rRNA" 242314	1227		/note="IR-B half of 35kb circle, putative Plastid DNA"	/db_xref="taxon:5833" /dev_stage="ervthrocytic"	/organism="Plasmodium falciparum" /strain="C10"		sequences (1111 1290354 (incl.), and		Vilson, R.J.M. Direct Silmission	14001	Plasmodium falciparum J. Mol. Biol. 261 (2), 155-172 (1996)
gene				CDS	gene						CDS	gene					CDS	gene					CDS	gene	gene		trna	gene	CKNA	9 0110	0000	trna	gene		trna	gene	Ç. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1.	+ 5 17
LINIYIKVYNGYKFIPIYINKTKLENKLGNFIYTKEVKNNIKELLIN" 38394483 /gene="rps3"	/db_xrel="SFIREMBL'Q23808" /translation="MIKLYWLKITINNKYIFININKYKYNKNLILNIYNK	/protein_id="CAA64580.1" /db_xref="GI:1171596"	/gene="rps19" /codon_start=1	/gene="rps19" 35573829	GKCKTGLGRKYPCSKKGLHSKGKKTIK"  3557 3829	TRINLIKTES Y LOLKYCKLETY LYNISKOVKKES IFARSAGTFAQLIKETY  TRINLIKTES Y LOLKYCKLETY LYNISKOVKKES IFARSAGTFAQLIKETY  DSKOCKYT NINNECYTEVANANTEHNKEKTR NAGYNTVYTT KOKYDOK AKA	/translation="MILKLKKYNTYKYFKSFGKNNKGYITIYNKGGGNL	/db_xref="G1:11/1393" /db_xref="SPTREMB1:Q25807"	/protein_id="CAA64579.1"	/gene="rpl2" /codon_start=1	27993536	27993536 /genew"rp12"	/translation="MKEVILNFYLYNILFYKINYLNKFCIIYSIKYFTKLDIKYIIKN IFKIKLINYNNIKINNINKKNCLKKYYITFK"	/db_xref="G1:11/1594" /db_xref="SPTREMBL:Q25806"	/protein_id="CAA64578.1"	/gene="rpl23"	2575. 2802	2575 2802	/ Legis-tg-Loui- "MYLL-LIMN LEWYLE RYLLINE KHER WYLLY LACHELLY LENY LEWYLL RYLKGIGKARLKNEKSPYCKOGACNEGPEYKEN KI SKINYRLIEVYLLINRKSNI III KLEWI INLLNIEYKNKNYCIEKLLYLKGI INN KYILINLNNKLENKNIEI NI IMYNYLIELI"	/db_xref="SPTREMBL:Q25805"  /db_xref="SPTREMBL:Q25805"	/protein_id="CAA64577.1" /protein_id="CAA64577.1"	/gene="rpl4"	/gene="rp14" 19992571	1999. 2571	;	/gene="trNA-Pro" /product="transfer RNA-Pro"	/gene="tRNA-Glu" 19011972	/product="transfer RNA-Glu" 18191888		/gene="tRNA-Lys"	/product="transfer RNA-Lys" 1730 18":	1739. 1811 //enew*tRNA-Ivs*		/gene="transfer RNA-Asp" /product="transfer RNA-Asp"	/9eie- Crina-Sei 1653. 1728	/product="transier kNA-Ser" 1555. 1648-		/gene="trna-Tyr"

ŋ

```
δÃ
                                                                                                                                                                                          밁
                                                                                                                                                                                                                                                          Вþ
                                                                                                                                                                                                                                                                                                                        밁
                                                                                                                                                                                                                                                                                                                                                                                          밁
                                                                                                                                                                                                                                                                                                                                                                                                                      δõ
                                                                                                                                                                                                                                                                                                                                                                                                                                                        밁
밁
                       Qγ
                                                          밁
                                                                                          ð
                                                                                                                            밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Query Match
Best Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Matches
                                                                                                                              4043
                                                                                                                                                                                            4103
                                                                                                                                                                                                                                                          4163
                                                                                                                                                                                                                                                                                                                                                                                                                                                        4343
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  gene
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                gene
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             gene
                                                                                                                                                                                                                                                                                                                                                                                          4283
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CDS
                                                                                                                                                                                                                                                                                          186
                                                                                                                                                            306
                                                                                                                                                                                                                                                                                                                                                                                                                     66 AACAATGATCGCATTAGCTATCTCTATGTCGTCATGGTTTAATATATGGAATAATGCATT 125
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      σ
                                                                                                                                                                                                                                                                                                                                                        AAGCGATCTAGGACATGCTGTTAAAAGCAGTGTTGCTCCAATATTCAATCTAGGTCTTGC 185
                                                                                                                                                                                                                                                                                                                                                                                      199;
                                                                                                                                                                                        TAAAAGGATCTTTAATCATATCCATGGGTGTATTTCTTAACTTAATAGGGGTTTTCGACGA 305
                                                                                                                                                                                                                                                                                                                        TATTGCAATGTGGTATCTACACTTTGCTTCA 456
                                                                                                                                                                                                                                                          AATTGGTGGGATACTAATTGTTATAGTTGGTTTAAGAAATCTTTATTCGTGGAGTAGAGT 245
TTTTACTAATATTATATAAAAATTATTTAA 3893
                                                            AGTATATGGTTGGATACATTTCCTAGTCTCAGTATTGTTTTTCTTATCAATAATAGCATA 365
                                                                                              TTTCATAGCTATATCAATACTTGACAAATCATGGATAGCTGTTCTACTAATAATAGGTCA 425
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            /db_xref="Sptrembl:Q25810"
/translation="WINIIIKKNOKGKIKGKFNLKFLSLYWGIISLDSGFLTKNOLET
/KTSLTIKKYLKKIGYYKICIRCIKSLTKKSLKTRWGSGKGSIELYVSPIKKNKLLFEIS
KISNNIIYTTKVLSYKLPFKLQYIRK"
4913. 5137
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         /db_xief="Sptrembl:Q25809"
/translation="MGGKVHPLIFTGLIYKNYLNNFYINISKNKYYLINILLTYFIYY
NTATIONYKEDNYINININSINKFYITFFLYNKYYNIYNLKYIFILLNYFNYYYYNY
YNYMCFLKIKYVNNINNINVINYIKKYYIKYKSLKLLFDYLYNNILKKNNFNIKGLK
IKFSGRFKNSLKTKIEIYIYGIISLSTLNNNIKYINDIINTKYGILSIKIWLNI"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             /gene="rpl16"
4510. .4899
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               /db_xref="SPTREMBL:Q25811"
/translation="MNIKIGYVIKNLNINIKIVCISFYKYNFKYKKLLLCNLYIKIYD
NRNEIIINDYILFKYYKKSKYCNNKVIKIL"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   /gene="rpl14"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             /protein_id="CAA64582.1"
/db_xref="GI:1171598"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        3839. .4483
/gene="rps3"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              'gene="rpl14"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              /protein_id="CAA64583.1"
/db_xref="GI:1171599"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 /gene="rps17"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              /gene="rpl16"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        /protein_id="CAA64581.1"
/db_xref="GI:1171597"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                codon_start=1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             codon_start=1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         codon_start=1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    8.6%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            "rps17"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Score 47.8; D
Pred. No. 2.3;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Mismatches 252;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 DB 6;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Length 14001;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    0,:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Gaps
                                                                                                                            3984
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    0
```

Ş

TCATGGATAGCTGTTCTACTAATAATAGGTCATATTGCAATGTGGTATCTACACTTTGCT

Q

Ş

```
TITLE
JOURNAL
REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SOURCE
ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ACCESSION
VERSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             BASE COUNT
ORIGIN ,
                                                                                                           οy
                                                                                                                                                  밁
                                                                                                                                                                                     δõ
                                                                                                                                                                                                                                                           δã
                                                                                                                                                                                                                                                                                                    Вb
                                                                                                                                                                                                                                                                                                                                     Qy
                                                                                                                                                                                                                                                                                                                                                                            В
                                                                                                                                                                                                                                                                                                                                                                                                               δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        KEYWORDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    rocus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    AC005505/c
                                                                                                                                                                                                                                                                                                                                                                                                                                                      Matches 212;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Query Match
Best Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                AUTHORS
                                                                                                                                                                                                                            192495
                                                                                                                                                                                                                                                                                                                                                                            192615
 192315
                                                                                                                                                  192435
                                                                                                                                                                                                                                                               154
                                                                                                                                                                                                                                                                                                                                     94
                                                                                                                                                                                                                                                                                                                                                                                                             34 ATAATATTTATTCTCAGCTTTTCTTTCCCATTAACAATGATCGCATTAGCTATCTCTATG 93
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Local Similarity
                                                                                                                                                AGTGTTGCTCCAATATTCAATCTAGGTCTTGCAATTGGTGGGATACTAATTGTTATAGTT 213
TCAGTATTGTTTTTCTTATCAATAATAGCATATTTCATAGCTATATCAATACTTGACAAA
                                                                        GTATTTCTTAACTTAATAGGGGTTTTCGACGAAGTATATGGTTGGATACATTTCCTAGTC
                                                                                                                                                                               GGTTTTAAGAAATCTTTATTCGTGGAGTAGAGTTAAAGGATCTTTAATCATATCCATGGGT 273
                                                                                                                                                                                                                        TATGTATGTGTAAATGTGAATGTAGTTATGGGTATATATATATATATATGTGTAAATGTC
                                                                                                                                                                                                                                                                                                                                     TCGTCATGGTTTAATATATGGAATAATGCATTAAGCGATCTAGGACATGCTGTTAAAAGC
                                                                                                                                                                                                                                                                                                                                                                          Submitted (21-AUG-1998) Stanford DNA Sequencing and Technology Center, Stanford University, 855 California Avenue, Palo Alto,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Hyman, R.W., Qin, F., Fung, E.L.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Hyman, R.W., Fung, E.L., Qin, F., Rowley, D., Mao, J., Kurdi, O.B., Conway, A.B. and Davis, R.W. Plasmodium falciparum 3D7 chromosome 12
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           malaria parasite P. falciparum.
Plasmodium falciparum Eukaryota; Alveolata; Apicomplexa; Haemosporida;
1 (bases 1 to 192929)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        94304, USA
On Aug 12, 2000 this sequence version replaced g1:8810446
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               AC005505 192929 bp una
Plasmodium falciparum chromosome 12 clone
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Direct Submission
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Unpublished
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        HTG; HTGS_PHASE2.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          AC005505.8 GI:9797710
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             PROGRESS ***, 1 ordered pieces.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   NOTE: This is a "working draft' sequence. It currently consists of 1 contigs. Gaps between the contigs are represented as runs of N. The order of the pieces is believed to be correct as given, however the sizes of the gaps between them are based on estimates that have provided by the submittor.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             by the finished sequence as soon as it is available the accession number will be preserved.

1 192929: contig of 192929 bp in length.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 81142 a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     This sequence will be replaced
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     (bases 1 to 192929)
                                                                                                                                                                                                                                                                                                                                                                                                                                                      Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               /clone="3D7"
17397 c 2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Location/Qualifiers
1. .192929
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       /db_xref="taxon:5833"
/chromosome="12"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        organism="Plasmodium falciparum"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  clone="PFYAC181"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   43.68;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               22111 g
                                                                                                                                                                                                                                                                                                                                                                                                                                                    0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Score 47.6;
Pred. No. 2;
                                                                                                                                                                                                                                                                                                                                                                                                                                                    Mismatches 274;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Conway, A.B. and Davis, R.W.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       DB 60;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               3D7, ***
                                                                                                                                                                                                                                                                                                                                                                                                                                                    Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Length 192929;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Plasmodium.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               12-AUG-2000
SEQUENCING
                                                                                                                                                                                                                                                                                                                                                                                                                                                    0.
                                                                                                                                                                                                                                                                                                                                                                                                                                                  Gaps
                                                                                                                                                192376
                                                                                                                                                                                                                        192436
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Ä
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         S
                                                                                                                                                                                                                                                                                                                                                                                                                                                  0;
```

```
õ
                                                                           Ş
                                                                                                                  Вþ
                                                                                                                                                    ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   REFERENCE
AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           RESULT 4
AC005139/c
                                       Db 145901
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Ş
                                                                                                                                                                                                                                                                                                            BASE COUNT
                                                                                                                                                                                                                                                                                                                                                                                                     FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              JOURNAL REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SOURCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                KEYWORDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              /ERSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         DEFINITION
                                                                                                                                                                                             Matches
                                                                                                                                                                                                               Best Local Similarity
                                                                                                                                                                                                                               Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TITLE
                                                                                                              AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    192135
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   192195
                                                                                                                                                                                                                                                                                                                                                                                     source
   154
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       454
                                                                           94
                                                                                                                                                    34 ATAATATTTATTCTCAGCTTTTCTTTCCCATTAACAATGATCGCATTAGCTATCTCTATG 93
                                   TCGTCATGGTTTAATATATGGAATAATGCATTAAGCGATCTAGGACATGCTGTTAAAAGC 153
AGTGTTGCTCCAATATTCAATCTAGGTCTTGCAATTGGTGGGATACTAATTGTTATAGTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TTTTTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TTCTAT 519
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TCAGAGATTCCGAGAGGTGCTGCTATTCCCGAGTTATTAGCGGTATTCTCGTTTTTACCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        94304, USA
On Apr 2, 1999 this sequence version replaced gi:4337170.
On Apr 2, 1999 this sequence version replaced gi:4337170.

* NOTE: This is a 'working draft' sequence. It currently

* consists of 5 contigs. The true order of the pieces

* is not known and their order in this sequence record is

* is not known and their order in this are represented as
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Submitted (18-JUN-1998) Stanford DNA Sequencing and Technology Center, Stanford University, 855 California Avenue, Palo Alto,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Direct Submission
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      2 (bases 1 to 256172)
2 (bases 1 to 256172)
3 (bases 1 to 256172)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     AC005139 256172 bp DNA HTG 01-APR-1999 Plasmodium falciparum chromosome 12, *** SEQUENCING IN PROGRESS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Hyman,R.W., Fung,E.L., Qin,F., Tamaki,T., Kurdi,O.B. and Davis,R.W. Plasmodium falciparum 3D7 chromosome 12
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Eukaryota; Alveolata; Apicomplexa; Haemosporida; Plasmodium
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          malaria parasite P. falciparum
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  AC005139.3 GI:4558581
                                                                                                                                                                                                                                                                                                            100700
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              arbitrary. Gaps between the contigs are represented as runs of N, but the exact sizes of the gaps are unknown. This record will be updated with the finished sequence {\bf r}
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     as soon as 10
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           lasmodium falciparum
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     (bases 1 to 256172)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  126536
126736
158846
159046
                                                                                                                                                                                           Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               soon as it is available and the accession number
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                HTGS_PHASE1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          192130
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      unordered pieces
                                                                                                                                                                                                                                                                                                      /organism="Plasmodium falciparum"
/db_xref="taxon:5833"
/chromosome="12"
26900 c 25826 g 101937 t 8no
                                                                                                                                                                                                                                                                                                                                                                                                     ocation
                                                                                                                                                                                                             8.6%;
43.6%;
                                                                                                                                                                                                                                                                                                                                                                                                     211738: contry ... length 211738: gap of unknown length in length 248106: contry of 36368 bp in length 248306: gap of unknown length length.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  126535: contig of 126535 bp in length
126735: gap of unknown length
158845: contig of 32110 bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            159045: gap of unknown length
211538: contig of 52493 bp in length
                                                                                                                                                                                           0
                                                                                                                                                                                                             Score 47.6;
Pred. No. 2;
                                                                                                                                                                                           Mismatches
                                                                                                                                                                                                                               DB 60;
                                                                                                                                                                                           274;
                                                                                                                                                                                                                                                                                                          809
                                                                                                                                                                                           Indels
                                                                                                                                                                                                                             Length 256172,
                                                                                                                                                                                                                                                                                                          others
                                                                                                                                                                                         0,
                                                                                                                                                                                         Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     513
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Ç
                                                                                                                                                                                         0
```

```
REFERENCE
AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             KEYWORDS
SOURCE
ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ₽
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 õ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Вþ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Ş
                                                                                                         FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                            COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Db 145481 TTTTTT 145476
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Db 145841 TATGTATGTGTAAATGTGAATGTAGTTATAGGGTATATATATATATATATATGTGTAAATGTC 145782
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              VERSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             RESULT 5
AC005140/c
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                COCUS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             source
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TCAGTATTGTTTTTCTTATCAATAATAGCATATTTCATAGCTATATCAATACTTGACAAA 393
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TCAGAGATTCCGAGAGGTGCTGCTATTCCCGAGTTATTAGCGGTATTCTCGTTTTTACCA 513
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             GTATTTCTTAACTTAATAGGGGTTTTCGACGAAGTATATGGTTGGATACATTTCCTAGTC 333
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GGTTTAAGAAATCTTTATTCGTGGAGTAGAGTTAAAGGATCTTTAATCATATCCATGGGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TCATGGATAGCTGTTCTACTAATAATAGGTCATATTGCAATGTGGTATCTACACTTTGCT 453
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Direct Submission
Submitted (18-JUN-1998) Stanford DNA Sequencing and Technology Center, Stanford University, 855 California Avenue, Palo Alto,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            AC005140 310779 bp DNA HT Plasmodium falciparum chromosome 12 clone PROGRESS ***, 4 unordered pieces.
                                                                                                                                                                                                                                                                                                          on Aug 12, 2000 this sequence version replaced gi:8810455
* NOTE: This is a 'working draft' sequence. It currently
* consists of 4 contigs. The true order of the places
* is not known and their order in this sequence record is
* arbitrary. Gaps between the contigs are represented as
* runs of N, but the exact sizes of the gaps are unknown.
* This record will be updated with the finished sequence.
                                                                                                                                                                                                                                                                                                                                                                                                                                                             94304,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1 (bases 1 to 310779)
Hyman, R.W., Fung, E.L., Qin, F., Rowley, D., Kurdi, O.B., Conway, A.B. and Davis, R.W. Plasmodium falciparum 3D7 chromosome 12
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                HTG; HTGS_PHASE1.
malaria parasite P. falciparum
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Plasmodium falciparum
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              AC005140.8 GI:9797735
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Hyman, R.W., Qin, F., Fung, E.L., Conway, A.B. and Davis, R.W.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Unpublished
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Eukaryota; Alveolata; Apicomplexa; Haemosporida; Plasmodium
                                                                                                                                                                                                                                                                     be preserved.
                                                                                                                                                                                                                                                                                           as soon as it is available and the accession number
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                (bases 1 to 310779)
                                                                                                                           187309
187509
257821
258021
307256
307456
                                                                               1. .310779
/chromosome="12"
/clone="PFYACB8-420"
                                      /organism="Plasmodium
/db_xref="taxon:5833"
                                                                                                       Location/Qualifiers
                                                                                                                                                           187308: contig of 187308 bp in length 187508: gap of unknown length 257820: contig of 70312 bp in length 258020: gap of unknown length 307255: contig of 49335 bp in length
                                                                                                                      307455: gap of unknown len
310779: contig of 3324 bp
                                                            falciparum"
                                                                                                                                                length
                                                                                                                           1n
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        3D7,
                                                                                                                           length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          *
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        SEQUENCING
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Ä
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Ç
```

BASE COUNT

126134 a

```
RESULT 6
PFMAL3P8/c
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Вþ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Ъ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Дb
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Вþ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              δõ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Ъ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               δõ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            δõ
                                                                                                                                                                                                              REFERENCE
                                                                                                                                                                                                                                                            SOURCE
REFERENCE
                                                                                                                                                                                                                                                                                                                               KEYWORDS
                                                                                                                                                                                                                                                                                                                                                VERSION
                                                                                                                                                                                                                                                                                                                                                                               ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                               DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                Locus
            JOURNAL
MEDLINE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Query Match
Best Local
                                                                                                                                                                                              AUTHORS
                                                                                                                                                                                                                                              ORGANISM
                                                             TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                4882
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                4942
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 5062
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 5242
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  4822
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 5002
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              5182 TATGTATGTGTAAATGTGAATGTAGTTATGGGTATATATATATATATATATGTGTAAATGTC 5123
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               394
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                274
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  154
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                514
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               454
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                94
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  34
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Local Similarity
mes 212; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              GTATTTCTTAACTTAATAGGGGTTTTCGACGAAGTATATGGTTGGATACATTTCCTAGTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GGTTTAAGAAATCTTTATTCGTGGAGTAGAGTTAAAGGATCTTTAATCATATCCATGGGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               AGTGTTGCTCCAATATTCAATCTAGGTCTTGCAATTGGTGGGGATACTAATTGTTATAGTT 213
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TCGTCATGGTTTAATATATGGAATAATGCATTAAGCGATCTAGGACATGCTGTTAAAAGC 153
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ATAATATTTATTCTCAGCTTTTCTTTTCCCATTAACAATGATCGCATTAGCTATCTCTATG 93
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TTTTTT 4817
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TCATGGATAGCTGTTCTACTAATAATAGGTCATATTGCAATGTGGTATCTACACTTTGCT 453
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TCAGTATTGTTTTCTTATCAATAATAGCATATTTCATAGCTATATCAATACTTGACAAA 393
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TTCTAT 519
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TCAGAGATTCCGAGAGGTGCTATTCCCGAGTTATTAGCGGTATTCTCGTTTTTACCA 513
                                                                                     Bowman,S., Lawson,D., Basham,D., Brown,D., Chillingworth,T., Churcher,C.M., Craig,A., Davies,R.M., Devlin,K., Feltwell,T., Gentles,S., Gwilliam,R., Hamlin,N., Harris,D., Holroyd,S., Hornsby,T., Horrocks,P., Jagels,K., Jassal,B., Kyes,S., McLea Moule,S., Mungall,K., Murphy,L., Oliver,K., Quail,M.A., Rajandream,M.-A., Rutter,S., Skelton,J., Squares,R., Squares,Sulston,J.E., Whitehead,S., Woodward,J.R., Newbold,C. and
                                                                                                                                                                                                                                                                                                                                                         Plasmodium falciparum MAL3P8, complete sequence.
AL034560 AL008968 AL010134 AL010151 AL010159 AL010171 AL010188
AL010209 AL021886 AL021887 Z97346
                                                                                                                                                                                                                                           Plasmodium falciparum
                                                                                                                                                                                                                                                                malaria
                                                                                                                                                                                                                                                                             pseudogene.
                                                                                                                                                                                                                                                                                             Serine/threonine
                                                                                                                                                                                                                                                                                                         HTG; alpha/beta hydrolase; guanine nucleotide-binding protein; long-chain-fatty-acid-CoA ligase; R-FA3; repl1; rep20; rifin;
                                                                                                                                                                                                                                                                                                                                               AL034560.3
                                                                                                                                                                                                                                                                                                                                                                                                                PFMAL3P8
                                Nature
                                                          The complete nucleotide sequence of chromosome 3 of Plasmodium
                                                                             Barrell,B.G.
                                                                                                                                                                                                                          Eukaryota; Alveolata; Apicomplexa; Haemosporida; Plasmodium
                                              falciparum
                                                                                                                                                                                                            (bases 1 to 108908)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Conservative
                             400 (6744), 532-538 (1999)
                                                                                                                                                                                                                                                            parasite P. falciparum.
                                                                                                                                                                                                                                                                                                                                                                                                             108908 bp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 29409 с
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              8.6%;
43.6%;
                                                                                                                                                                                                                                                                                                                                                GI:4725993
                                                                                                                                                                                                                                                                                             protein kinase; stevor;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 30056 g 124579 t
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Score 47.6; DB 60;
Pred. No. 1.9;
D; Mismatches 274;
                                                                                                                                                                                                                                                                                                                                                                                                                DNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 601 others
                                                                                                                                                                                                                                                                                             rep11; rep20; rifin;
telomere: R-CG7; var;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Length 310779;
                                                                                                                                                                                                                                                                                                                                                                                                             17-MAR-2000
                                                                                                                                         S., McLean, J.,
                                                                                                          Squares, S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              4943
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              4883
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               5003
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                5063
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                333
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 273
                                                                                                                                                                                                                                                                                             varc
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            gene
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CDS
```

```
AUTHORS
JOURNAL
REFERENCE
AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  source
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        On Apr 29, 1999 this sequence version replaced gi:4494019. For more information about this sequence or the Malaria Project, see http://www.sanger.ac.uk/Projects/P_falciparum. IMPORTANT: The sequence is not the entire insert of clone MAL3PB. It may be shorter because we only sequence overlapping sections once, or
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Submitted (17-DEC-1998) P.falciparum Genome Sequencing Consortium, The Sanger Centre, Wellcome Trust Genome Campus, Hinxton, Cambridg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    submissions
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CB10 1SA, 0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Direct Submission
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          3 (bases 1 to 108908)
Lawson,D., Bowman,S., Rajandream,M.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Bowman, S.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Unpublished
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            conger because we arrange for a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1SA, UK
                                                                                                                                                                                                                                                           ETFFLMHKYKVDKEKEDKEKNGRNMVVYTSPVPNDLYEKLKKGEIPDDFLRQMFYTLA
DYKDLILFSGDKDNKNGYNDILSGDKELHEREKEIKGAIEKHESNSVKTPSTSGNDAKT
WMKENAPHIWEGMICALTYKETSGSGGEKQIEKENSDVYNKFFGSTAATQKGTYESKYK
YTDVKLEENSGTGGPRGPNESPNSKPPSSTSENKPTTLDSFIKRPPYFRYLEEWGETF
CRERAKRLAQIKVDCRGDENTNRSNDGDGFDCBKKVTNKDVFLEDFNGSSCATCCSSY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 /note="rep11"
10610. .30944
/note="rep20"
                           GCKENCDCVKKWYEEKEKEWPKIRKRYLEQYKNAGGSDDYKVKSFLEDPQFYNEVNKA
VKPCDDLNAFERSIHCNGPNSSQKKDVERRDVVYCLLDKLEKEAKKCEQKHQNSGNPQ
QPCEGSTPPDDEEEELLEEDEQNTYGKEKYGNKAPAICGDVEEQKEKEEGDCDKAVTP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      EIKRAYGKNOTTKETSNGFINNLYVGDFYSKLQQTYGSVDKFLKKLNDEAICKKHPE
VEEKTDVNFNENLDDIFSHTKYCQACFLGLENDSPBEKECRDQOIRNFDDNE
SNEIKLLVKDKGGQTHYEKLGGLGUNGAKKNNIQEKTYNKCYDKNKENSIGGGDXDY
VLKNDKKNRTQLEIVSFNSLFWRWVTENLKDSIDWRKEYKNCINNGDKSTCKNVCKKP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      GDHDKYKETNDSSQLCTMLARSFADIGDIIRGKDLYRGNNGKDKLEENLKTIFGKIHE
GLKNGKTNGIEERYGNDPDFFQLREDWWTANRETVWKAIRCSAPRDADYFIKTVCSGG
KTPTQGKCRCIDFSVPTYFDYVPQYLRWFEEWAEDFCRLRKHKLQNAKNKCREKHKDG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              /note="PFC0005w (MAL3P8.1), var gene (3D7-varT3-1),
2209 aa; Similarity to P.falciparum PfEMP-1 gene. P
a multi-gene family, donor sequence corrected"
DSDTGGNGEKEDSRSEEEEEVSGSGDQGSPPAPPPESPQEKAPAPAPEELPPGPERP
                                                                                                                                                             DSGEDNGNGNEEDKLNFRQPNVTFRPAENCKPCSLIEIKCKNGVCNGDPTKGECNGET
VTAEEIEKMNDLNGNIDMLVSDNGKNEIPEDLKSSCKDANIFKGIREDVWKCGKFRDV
                                                                                                                                                                                                                                                                                                                                                                                                                                      TAASQGSGEAAQPVTVTQPQASGGNTQVAVSPGGAASSTSTTESSQLLRQAFIESAAV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     EACKQKYQYGKEKFPNWKCVPTTRGSGEPTGSSGSICVPPRRRRLYVTPLTRLAGGGN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        EEEKAKDNTDETVETAKETKEDTDRKGEEKQPKEEVDNVKPCEIVKTLFTNGDNTALN
                                                                                                                                 DVCVLKNFNKHIHDKKNVLIRTLFKRWLEYFFEDYNRIQKKLKPCIENGKGKEQKCFK
                                                                                                                                                                                                                                  RKWIERKKIEFEEQENAYEEQQKKNCVNGNNKGGVNGVCGKLEENAAGFLQKLGSCKK
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       AKTGQPRAEDEEDSPRPDAGAGEVDDEDDDADNDDEITPRDLNIEVDDLDSKDPEDQV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CDCFQKWGVRKTKEWQQVKAHYEKEDFGKGLTPYKTLEWVLDLSYFPIIKEAHPKEKP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              KKLYCDLNGFDCTQTARGKNKYKYEHDCIECYSSCDHFVHWIDNQKKEFEKQKNKYDK
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ECDDSK1KGSNGGACAPFRRLNLCVRNLENINNYGK1NNDTLLADVCLAALHEGDS1R
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                /protein_id="CAB39115.2"
/db_xref="GI:7264037"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    /gene="PFC0005w, MAL3P8.1"
/note="PFC0005w, MAL3P8.1"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       VQKMEEIIKKNQENISRVTKQNNSITKFLQQELQEANNCLQKRKQDCKPPQQSAEEGV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              /translation="MVRTLDPEEELRGIEDTTAKHIFDRIGKIVHEKAKKNAEQYRSQ
LKGSLLKATFEKAPAGQQTPGNTCELKYQWHTNVTKGGNKEYPCRNGTEKRFSEVSGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             /note="R-CG7"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               /strain="3D7"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               /organism="Plasmodium
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 /db_xref="SPTREMBL:097324"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  /codon_start=1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      /gene="PFC0005w, MAL3P8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     join(33641
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           note="PFTelo"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              /clone="MAL3P8"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 /chromosome="3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                /db_xref="taxon:5833"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ocation/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Churcher, C.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     .108908
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             .10564
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            .6818
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     .38959,39848
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Lawson, D., Quail, M. and Barrell,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  falciparum'
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                small overlap between neighbouring
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Genome Campus, Hinxton, Cambridge
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                len:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     of.
```

```
Sg
                                                                                                                                                                                            gene
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          gene
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    gene
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  gene
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           gene
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             complement(join(52066. .53076,53192. .53260))
/gene="PFC0030c, MAL3P8.5"
complement(join(52066. .53076,53192. .53260))
/gene="PFC0030c, MAL3P8.5"
/note="PFC0030c, MAL3P8.5), rifin, (3D7-rifT3-2), leas; Similarity to other P.falciparum rifins. Member models and the process of 
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               /gene_"PEC0025c, MAL3P8.4,"
/note_"PFC0025c (MAL3P8.4), stevor (3D7-stevorT3-1),
/296 aa; Similarity to other P.falciparum stevors. Mei
of a multi-gene family; predicted using hexExon"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              complement(join(43045. .43971,44202. .44255))
/gene="PFC0010c, MAL3P8.2"
complement(join(43045. .43971,44202. .44255))
/gene="PFC0010c, MAL3P8.2"
/note="PFC0010c (MAL3P8.2), rifin (3D7-riff3-1), len:
aa; Similarity to other P.falciparum rifins. Member of
/gene="PFC0035w, MAL398, 6"
join(58103. .58174,58338, .59390)
/gene="PFC0035c"
                                                                                                                                                                                                                                                                                                                          QHFEKCEFGYLKEGFTPVGDPSRDIHFCQSVWQQTSVVSKTGHYISPKDVIKRTVETM
VSKAEGPANAAAEFVKATETATIKAAEEKTIETASTQLYSAIGYSILAILIIVLINLI
                                                                                                                                                                                                                                                                                                                                                                                                                                                 /translation="mkllysnillfalalnilltsyyahnknkpsitphhtrtttsrl
LSECDTESSIYDSDEEINSVKEIFERQTSRRFEEYEERMITQRQKYKEQRDKDIQKII
HKDKMEKNLAEKIEKGCLRCGCGLGSVAGSIGLFGAVAINIWKPAALDAAIAKAITEG
TANISAAGVKAGEATGKVLVISGLKKMGISTLGGKNLESYFATTSYKKVASIAQAVYE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  /translation="MKMYYLKMLLFTFLINTLILPHYENYLNNDYNVSFIQNNTKRTT TKSRLLAQTQTHDPHYHNDPELKEIIDKMNEEAIKKYQQTHDPYEQLKEVVEKNGTKY SGGNBAPDEKSTTEKELLETYBEIFGNESDMLKSGMSPNVDEKSSTFECTDINGVKLAK TKGRDKYLKHLKGRCTRGIYFCSLGSVILTYIGTTAAKGAAISTAGAGSKNCIYAISIFHMLNHKSMSSALTALGTVGCAADYASGATSASAIFLPCGIAALVLLIITVLLIILYI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 complement(join(48956. .49777,49881./gene="PFC0025c, MAL3P8.4"
complement(join(48956. .49777,49881.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            SEYEBMDINDIYVPGSPKYKTLIEVVLEPSGNNTTASGKNTPSDTQNDIQNDGIPSDT
PNTPSDIPKTPSDTPPPITDDEWNTLKDEFISQYLQSEQPNDVENDYKSGNSSTNTNI
TTTSHHVEEKPFINSIHDRULYTGEEYNVDMSNNSGIFYSSSNRDSLSGTKVPYSGI
DLINDSLNSGNQPIDIYDEILKRKENELFGTNHVKQTSHHSVAKLTNSDPIHNQLELF
HKWLDTHRDMCEKLKNDNERLAKLKEEWENFTHSGNIHTSDSNKTLNTDVSIQIDMDD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         complement(46448. .47828)
/gene="PFC0015c"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       complement(46448..47828)
/gene="PFC0015c"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            VGWTNYVTQTALQKGIEAGVKAGIEELKGFPGLRKLIKVSQIQSFINPANYAEETTYF
NFIKQVENTKCVVKEHTFCYSTYISKENALSQRASEIAKNAADMAKLAEREVLDKAAP
VTSGLNTAIIASIVALLVIVLYMIIIYLFLRYRKNKKKKKKLQYIKLLEE"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 /db_xref="Sptrembl:097325"
/thanslation="MKIHYINILLFELPLNILIYNQRNHYITRTPKATTRTLCECELY
/translation="MKIHYINILLFELPLNILIYNQRNHYITRTPKATTRTLCECELY
/translation="MKIHYINILLFELPLNILIYNQRNHYITRTPKATTRTLCECELY
/translation="MKIHYINILLFELPLNILIYNQRNHYITRTPKATTRTLCECELY
/translation="MKIHYINILLFELPLNILIYNQRNHYITRTPKATTRTLCECELY
/translation="MKIHYINILLF"
/translation="MKIHYINIL
                                                                                                                                                                                     Join(58103. .58174,58338
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              /protein_id="CAB39118.1"
/db_xref="GI:4494023"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   /codon_start=1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                WLYRRKKRSWKHECKKHLCK"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  /protein_id="CAB39117.1"
/db_xref="GI:4494022"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                /protein_id="CAB39116.1"
/db_xref="GI:4494021"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             multi-gene family; predicted using hexExon"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    DVNTKLVKEKYPIADVWDI"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     GKPKKEFTNMDTILEDLDKYNEPYYDVQDDIYYDVNDHDVSTVDSNAMDIPSKVQIEN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  /db_xref="SPTREMBL:097326"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     /codon_start=1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   /pseudo
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          /note="PFC0015c varC pseudogene"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            /codon_start=
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 /note-"R-FA3"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 /note="corrected splice donor
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         codon_start=1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     .38965
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               .49777,49881. .49949))
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               for
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               PFC0005c"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             .49949))
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1), len:
Member
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 er of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            n: 326
of a
```

```
REFERENCE
AUTHORS
                                                                                                                                                                                                                                                                                                                ACCESSION
VERSION
KEYWORDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     RESULT
AE003846
                                                                                                                                                                                                                                                                                         SOURCE
                                                                                                                                                                                                                                                                                                                                                                                                                                 DEFINITION
                                                                                                                                                                                                                                                               ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Query Match
Best Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   72991
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            73051
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          73111
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           73231 TATTAATAAAAAAATATATTTTATAGTTTTTAAAAAGTATTTTCATTTGTGAAAAGGACAT 73172
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                gene
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   324
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    204 TGTTATAGTTGGTTTAAGAAATCTTTATTCGTGGAGTAGAGTTAAAGGATCTTTAATCAT 263
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              144 TGTTANANGCAGTGTTGCTCCANTATTCANTCTAGGTCTTGCAATTGGTGGGATACTAAT 203
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ATCCATGGGTGTATTTCTTAACTTAATAGGGGTTTTTCGACGAAGTATATGGTTGGATACA 323
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ACATACATACATACATATATATATATATAAGAAGGTGATA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ACTTGACAAATCATGGATAGCTGTTCTACTAATAATAGGTCATA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TTGAATATTATTACTATAGTTTTTATAATTTTTTCTTAAAAACATACTTTTTTGGATTATAT 72992
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TTTCCTAGTCTCAGTATTGTTTTTCTTATCAATAATAGCATATTTCATAGCTATATCAAT 383
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    AATATAGCATGTGTATATATAGAAATTATGTTTTACTACCAGTACTATGTTTTCTGTTT 73052
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TITAATATTTTAATTTAAGGAACATATGTTTTAAGAATATTTCTTTGTATTTTATATAGT 73112
                                                                                                                                                                                                                                                                                                                                          AE003846 298469 bp prosophila melanogaster g of 2, complete sequence. AE003846 AE002804 AE003846.2 GI:10728138
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            136;
1 (bases 1 to 298469)
Adams, M.D., Celniker, S.E., Holt, R.A., Evans, C.A., Gocayne, J.D., Amanatides, P.G., Scherer, S.E., Li, P.W., Hoskins, R.A., Galle, R.F., George, R.A., Lewis, S.E., Richards, S., Ashburner, M., Henderson, S.N., Sutton, G.G., Wortman, J.R., Yandell, M.D., Zhang, Q., Chen, L.X., Brandon, R.C., Rogers, Y.H., Blazej, R.G., Champe, M., Pfeiffer, B.D.,
                                                                                                                                                                  Eukaryota; Metazoa; Arthropoda; Tracheata; Hexapoda; Pterygota; Neoptera; Endopterygota; Diptera; Brachyco
Muscomorpha; Ephydroidea; Drosophilidae; Drosophila.
                                                                                                                                                                                                                                                         Drosophila melanogaster
                                                                                                                                                                                                                                                                                                                      HTG
                                                                                                                                                                                                                                                                                         fruit fly.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           /note-"PFC0040w (MAL3P8.7), rifin, (3D7-riff3-4), len: aa; Similarity to other P.falciparum rifins. Member of multi-gene family; predicted signal and transmembrane sequence; predicted using hexExon"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         GAPGTTPIETVLNGIVEGTKEAADVAAEAARESATNAIKVQETRLLEAGFNSSISSIN ASIIALVVIILIMVIIYFILAVRRKKKLKKLQVIKLLEE"
join(61248. .61301,61548. .62459)
/gene="PFC0040w, MAL3PB.7"
/gene="PFC0040w, MAL3PB.7"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               /note="PFC0035w (MAL3P8.6), rifin, (3D7-rift3-3), len:
aa; Similarity to other P.falciparum rifins. Member of
multi-gene family; predicted using hexExon"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 /translation="mKIHYINILLFALPLNILVNNQRNHNNSTYHTSNTKTIKSHRSL
CECKLYAQSNYENDQEMKDVIKEFNDRTAQRFEEYNERMQVKKNQCKEQCDKEIQQII
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    GSWEPYFTEGYCINVKSLASIIYEKRQTLCGATKSTLDKATCEQIGISIGTMQHDGTY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            KDK I EKELNEKFATLQTD I HSDA I PTC I CKTSMADKVEKTCLKCTQNLGG I VAPSSGV
LAG I AEGALYAWKPNALQTA I EAALKAAADD I LVGG I EAGKKVVI GGLDALE I EKLG I
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CECELYMHNYDNDPEMKRVMQQFHDRTTQRFQEYDERLQEKRQVCKDTCDKEIEKIIL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 /protein_id="CAB39119.1"
/db_xref="GI:4494024"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      /protein_id="CAB39120.1"
/db_xref="GI:4494025"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           /codon_start=1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           /db_xref="SPTREMBL:097328"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          /codon_start=1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          /db_xref="SPTREMBL:097327"
/translation="MRITIKMKVHYINILLLALSLNILANTHQKPSSTPRHIQTTRLL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   8.5%;
47.9%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Score 47.2;
Pred. No. 2.
                                                                                                                                                                                                                                                                                                                                                                                                                        DNA INV 04-OCT-2000 genomic scaffold 142000013386051 section 1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Mismatches 148;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      5.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             DB 6;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Length 108908;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   72948
                                                                                                                                                                                                     Brachycera;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      0;
                                                                                                                                                                                                                               Insecta;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ۵
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      0
```

20

Š 밁 Qy Вþ Ş В δÃ В

В

mRNA	CDS	gene	mRNA	COMMENT FEATURES Source	REFERENCE AUTHORS TITLE JOURNAL	TITLE JOURNAL					
/db_xref="FLYBASE:FBan0017469" /db_xref="FLYBASE:FBgn0040845" /protein_id="AAF59375.1" /db_xref="GI:7304345" /translation="MTESGIDLGFDMEFDLNINLLNDNDNMDFLPNVTENMEFYELKS SSRCIRHNEN" SSRCIRHNEN" 1010(35953608,37303887,39454042,41164365, 44174547,46114779,63486499,73727501,7555>7671) /gene="CG17471" /product="CT38ASE:FBan0017471" /db_xref="FLYBASE:FBan0017471"	/db_xref="FLYBASE:BBan0017469" /db_xref="FLYBASE:BBan0040845" complement(1028 . 1192) /gene="CG17469" /note="CG17469 gene product" /codon start=1	/MD_xref="FLYBASE: FBan0017469" /db_xref="FLYBASE: FBgn0040845" /complement(<1028>1306) /gene="GC17469" /map="102E1-102E3"	/db_xref="taxon:7227" /chromosome="4" complement(1028>1306) /gene="CG17469" /prodic="CT37463"	On Oct 9, 2000 this sequence version replaced gi:7304344.  Location/Qualifiers 1298469 /organism="Drosophila melanogaster"	2 (bases 1 to 298469) 2 (bases 1 to 298469) 3 (bases 1 to 298469) 4 Adams, M.D., Celniker, S.E., Gibbs, R.A., Rubin, G.M. and Venter, C.J. 4 Adams, M.D., Celniker, S.E., Gibbs, R.A., Rubin, G.M. and Venter, C.J. 5 Submitted (21-MAR-2000) Celera Genomics, 45 West Gude Drive, 6 Pockyille MD 1152	Zhong, F.N., Zhong, W., Zhou, X., Zhu, S., Zhu, X., Smith, H.O., Gibbs, R.A., Myers, E.W., Rubin, G.M. and Venter, J.C. The genome sequence of Drosophila melanogaster Science 287 (5461), 2185-2195 (2000)	Simpson, M., Skupski, M.P., Smith, T., Spier, E., Spradling, A.C., Stapleton, M., Strong, R., Sun, E., Svirskas, R., Tector, C., Turner, R., Venter, E., Wang, A. H., Wang, X., Wang, Z. Y., Wassarman, D. A., Weinstock, G.M., Weissenbach, J., Williams, S.M., Woodage, T., Worley, K.C., Wu, D., Yang, S., Yao, O. A., Ye, J.Y., Yeh, R.F., Zaveri, J.S., Zhan, M., Zhang, G., Zhao, O., Zhang, I., Zhang, S., Yao, O. Zhang, J., Zhang, S., Zhang, S	Nusskern, D.R., Pacleb, J.M., Palazzolo, M., Pittman, G.S., Pan, S., Pollard, J., Puri, V., Reese, M.G., Reinert, K., Remington, K., Saunders, R.D., Scheeler, F., Shen, H., Shue, B.C., Siden-Kiamos, I.,	Fleischman, W., Fosler, C., Gabrielian, A.E., Garg, N.S., Gelbart, W.M., Glasser, K., Glodek, A., Gong, F., Garrell, J.H., Gu, Z., Gelbart, W.M., Glasser, K., Glodek, A., Gong, F., Gorrell, J.H., Gu, Z., Gelbart, W.M., Glasser, K., Glodek, A., Gong, F., Gorrell, J.H., Gu, Z., Gelbart, W.M., Glasser, K., Glodek, A., Gong, F., Gorrell, J.H., Gu, Z., Gelbart, W.M., Hostin, D., Heiman, T.J., Heiman, T.J., Hostin, D., Houston, K.A., Howland, T.J., Wei, M.H., Ibeywam, C., Jalali, M., Kalush, F., Karpen, G.H., Ke, Z., Kennison, J.A., Ketchum, K.A., Kimmel, B.E., Kodira, C.D., Kraft, C., Kennison, J.A., Ketchum, K.A., Kimmel, B.E., Kodira, C.D., Kraft, C., Kravitz, S., Kulp, D., Lai, Z., Lasko, P., Lei, Y., Levitsky, A., Kravitz, S., Kulp, D., Lai, Z., Liasko, P., Lei, Y., Levitsky, A., Li, J., Li, Z., Liang, Y., Lin, X., Liu, X., Mattei, B., McIntosh, T.C., Li, J., Li, Z., Liang, Y., Lin, X., Liu, X., Mattei, B., McIntosh, T.C., McLeod, M.P., McPherson, D., Merkulov, G., Milshina, N.V., Mobarry, C., Mozny, D.M., Nelson, D.R., Nelson, K.A., Nixon, K.A., Mizny, D.M., Nelson, D.R., Nelson, K.A., Nixon, K.A., N	NAOCH,C., Baldwin,D., Bayraktaroglu,L., Berman,B.P., Bhandar, Benck,J., Broksteil Buck,J., Broksteil Butler,H., Cadieu,E., Cawley,S., Dahlke,C alcher,A., Deng,Z., lin,K.T., Downes,M.,	axter,E.G., Helt,G., Nelsc F., Agbayani,A., An,H.J.,
CDS	gene		mRNA			CDS	gene	mRNA		CDS	gene
Join (1906) . 19163, 25083. 25226, 2 27005. 27124,27178. 27325) /gene-"pho" /note-"pho gene product; Nucleotid sequence differs from the publishe transcript" /codon_start=1 /db_xref="FLYBASE:FBan0017743" /db_xref="FLYBASE:FBan0017743" /protein_id="AAF59378.1" /db_xref="GI:7304348" /translation="MAYERFGIILQSEQYDEDIG	/8584. >27740 /gene="pho" /note="CG17143" /map="102E3-102E5" /db_xref="FLYBASE:Bann0017743" /db_xref="FLYBASE:Bann001571"	/year- pind /note-"Nucleotide sequence of the from the published sequence for th /product-"CT39329" /db_xref-"FLYBASE:FBan0017743" /db_xref-"FLYBASE:Bgn0002521"	EEESDSDYEQNSENDEESEINPSNYYNDXALLE EIKEGRIDVYSQLISNESIESAKAIREREENMKK JOIN(18584. 18839,18906. 19163,2 26111. 26402,27005. 27124,27178.	/protein_id="AAF593/.i" /db_xref="G1:7304347" /translation="MKLDANIKSGLSNHVQYTLP KPEEVKVATEELSKKFKFFETYSPAENKKRIFAN LFNDNILQKTKTTSTILNKFREMEEQKMSDQQKK	/yeure C01/40/ /note="CG17467 gene product" /codon_start=1 /db_xref="FLYBASE:FBan0017467" /db_xref="FLYBASE:FBgn0022341"	/db_xref="FLYBASE:FBan0017467" /db_xref="FLYBASE:FBgn0022341" complement(join(78487850,7901. 965810140,1019910297))	/product="CT36621" /product="CT36621" /db_xref="FLYBASE:Ban0017467" /db_xref="FLYBASE:FBgn0022341" complement(<7685>10336) /gene="CG17467" /man="10261-10263"	1E" complement(join(76857850,7901. 965810140,1019910336)) /meno="rcg17467"	/UD_AKELE FLIAMSE: PAGNOOL 14, 11 /db_Xref="GI: HQTBASE: EBGNOO39924" /protein_id="AAF59376.2" /db_Xref="GI: 10728139" /translation-"MEKKISSSOPRILKKKHFF HTINELSHVNIPMILLPDDFRAYSKIKVDNHLEN FGVDDVDYRESITRSOPTOIDSSGKSGAGFYQSY HPYVVERHGKTLLPQYLGMYRITVESVQYYFVVM ASEKELEKNLPTFFKNDMFIKQVKKLDIGKEAKDK GVHDCVRAEEEALQGDNILTVGRSENSESEECDS EKREIYFIAIIDVLTQYGVKKQAAKAAKTVKYGS	/map="102E1-102E3" //db_xref="FLYBASE: FBan0017471" //db_xref="FLYBASE: FBgn0039924" //db_xref="FLYBASE: FBgn0039924" //oin(37503887,39454042,4116. 46114779,63486499,7372750 //gene="CG17471" /note="CG17471" /codon_start=1	<3595>7671 /gene="CG17471"

```
YTLPDKKYQIHNQKVQENSDVEIVKSDS
IERMTPPREGVVMFPPPDSETNQQISTT
OOKKKNEKPLKCCTPPPPEISHQFIRSDT
ALLEAQSVARAKQLRAKTEKWQNNEIEQ
NNKKSETAMENPSKTQIKRFV*
63,25083...25226,25280...26049,
178...27740)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              KHFRVKHOKVKLFRANEPILSVFMMGIN
HLFNKENMPSHFKVKEYCPLVFRNLRER
YQSYDKFFIIKSLTSEEIERMHAFLKQY
FVVMRNVFSSHLTIHKKEDLKGSTVDRE
AKDKLMDFLSNUVDLLTKLHIMDYSLLV
ECDSGERFATNTTGIKIRELMYILNCIA
KYGSNVDGISTCDPEQYAKRFLDFMDKA
                                                                                                                                                          ide sequence of the Celera
hed sequence for this
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                e Celera sequence differs this transcript."
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      . .7982,8045. .8187,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         6. .4365,4417. .4547,
501,7555. .7671)
IGNTKVNQKMNEGKGNHYDLHRKNAF
                                                                                                                                                                                                                                                  ,25280. .26049,26111. .26402,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   .7982,8045. .8187,
```

```
Query Match
Best Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             179741
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              179681
  180038
                                                                                                                                                                                                                                                                                                                                                                                                               179798
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   gene
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              mRNA
                                                    385
                                                                                                                                                                                                                                                          265
                                                                                                                                                                                                                                                                                                                                                           205
                                                                                                                                                                                                                                                                                                                                                                                                                                                              145
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            85
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               25
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ATGGATATGATAATATTTATTCTCAGCTTTTCTTTCCCATTAACAATGATCGCATTAGCT 84
GTTATAGTTGGTTTAAGAAATCTTTATTCGTGGAGTAGAGTTAAAGGATCTTTAATCATA 264
                                                                                                                                                                                                                                                                                                                                                                                                       CTTGACAAATCATGGATAGCTGTTCTACTAATAATAGGTCATATTGCAATGTGGTATCTA 444
                                                                                                   TTCCTAGTCTCAGTATTGTTTTTCTTATCAATAATAGCATATTTCATAGCTATATCAATA 384
                                                                                                                                                                                                                                                     TCCATGGGTGTATTTCTTAACTTAATAGGGGTTTTCGACGAAGTATATGGTTGGATACAT 324
                                                                                                                                                                                                                                                                                                       GTTAAAAGCAGTGTTGCTCCAATATTCAATCTAGGTCTTGCAATTGGTGGGATACTAAATT 204
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ATCTCTATGTCGTCATGGTTTAATATATGGAATAATGCATTAAGCGATCTAGGACATGCT 144
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 194;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TMMNSTKNVQIIDLGRNCKASFKTNNSILTKPNFPLIQSKEEVQLQARSRIDLIKRSL
IGGERIHDFELKEKHMARKYAAQRHLSAIAIALSRVKCEDRDLLQGHYATITQEIDIK
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            GVSVPTLTTQPVVNANQCYDWLHEGNKNRVTAATLMNKNSSRSHTIFTITLEQSPELN
SIGSDAFGGICRGKLSLVDLAGSERQRKTGAQGDRLKEASQINLSLSALGNVISSLVD
GKAKHVPERDSKLTRLLQYYFNKDSLGGNTKTLMISCISPTDIHYDETISTLRYASRA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               /db_xref="FLYBASE:FBan0017461"
/db_xref="FLYBASE:FBgn0039925"
complement(join(33838..34674,34722./gene="CG17461"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       /db_xref="FLYBASE:FBan0017461"
/db_xref="FLYBASE:FBgn0039925"
complement (<33838. .>35332)
/gene="CG17461"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     NTDSTGCGEMNLSEVTVSYTNDKKIACPHKGCNKHFRDSSAMRKHLHTHGPRVHVCAE
CGKAFVESSKLKRHQLVHTGEKPFQCTFEGCGKRFSLDFNLRTHVRIHTGDRPFVCPF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           DRIIHSESKKGDNVINYNIHENDKIKAADNIFSSKLKMNPNMSYEMNINCFKNIGYGE
NQETSKVLTNSLSKNDINTEESGVVDKNSYFLTIGTTILNSNGSKRWEGKLVHIKTM
KQETSKVTMAASGISDDEYSGSDQIVGASDLLKGKEEFGIDGFTSQQNKEYGKMESKF
EGEFSVTMMAASGISDDEYSGSDQIVGASDLLKGKEEFGIDGFTSQQNKEYGKMESKF
NAQTLEMPHPISSVQIMDHLIKERGNLSQENNISERILSKTTLSFEEPIILLPDSSSIE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               complement(join(50956. .51220,52591.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  /db_xref="FLYBASE:FBan0017461"
/db_xref="FLYBASE:FBqn0039925"
/db_xref="FLYBASE:FBqn0039925"
/protein_id="NAF59380.1"
/db_xref="GI:7304350"
/translation="WTTNVRYLALVTYLEIYNERIRDLLNKNENTNVINHFLKELPGI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      SVTENHVPFVVYAD"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          DACNKKFAQSTNLKSHILTHAKAKRNTSISGKSGCSNAESNSQSEDTSANYVKVELQD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           \mathtt{NDYIRKCKEKIKMLEMEVSDLNSEFQLDREDYLDEIRNLGRQVKFHQQLFLKFSSNPG}
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    KNISNKPKINEDPKDARLRQYQNEILYLKRMLQESQQIINKNNDPNKIIKSPLKIIQH
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 complement(join(33838.
/gene="CG17461"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    LVNETAAMTINNHRTLSNHTGNTGDLHALPSSVPFRIGLHEGQVNDCLSTISQSTHQD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    /note="CG17461 gene product"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  /map="102E3-102E5"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            /product="CT38613"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   46.28;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Score 47.2;
Pred. No. 2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           .34674,34722.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           DB 4; Length 298469;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            223; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            .52741))
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ω
••
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Gaps
                                                                                                180037
```

RESULT AC014617 B 8 B 8

Š

В

õ

B

Š

밁

5 B 5

В

```
VERSION
KEYWORDS
SOURCE
                                                                                                                                                                                                                       QΥ
                                                                                                                                                                                                                                                       Ъ
                                                                                                                                                                                                                                                                                    Ş
                                                                                                                                                                                                                                                                                                                                                Qy
                                                                                                                                                                                                                                                                                                                                                                                    В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         REFERENCE
AUTHORS
                                                                                                                                                                                           밁
                                                                                                                                                                                                                                                                                                                     В
                                                                                                                                                                                                                                                                                                                                                                                                              Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     δÃ
                                                                                                                           RESULT 9
AL513530/c
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              COMMENT
                SOURCE
                               KEYWORDS
                                               VERSION
                                                              ACCESSION
                                                                                             DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    BASE COUNT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ACCESSION
                                                                                                              Locus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TITLE
 ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 source
                                                                                                                                                                                             497
                                                                                                                                                                                                                                                                                                                       377
                                                                                                                                                                                                                                                                                                                                                                                    317
                                                                                                                                                                                                                      385 CTTGACAAATCATGGATAGCTGTTCTACTAATAATAGGTCATATTGCAATGTGGTATCTA 444
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             145 GTTAAAAGCAGTGTTGCTCCAATATTCAATCTAGGTCTTGCAATTGGTGGGATACTAATT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           265 TCCATGGGTGTATTTCTTAACTTAATAGGGGTTTTCGACGAAGTATATGGTTGGATACAT 324
                                                                                                                                                                                                                                                                                                                                                                                                                                               85 ATCTCTATGTCGTCATGGTTTAATATATGGAATAATGCATTAAGCGATCTAGGACATGCT 144
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         25 ATGGATATGATAATTTATTCTCAGCTTTTCTCTTTCCCATTAACAATGATCGCATTAGCT 84
                                                                                                                                                                                          TTCCTAGTCTCAGTATTGTTTTTCTTATCAATAATAGCATATTTCATAGCTATATCAATA 384
                                                                                                                                                                                                                                                                                                                    GTTATAGTTGGTTTAAGAAATCTTTATTCGTGGAGTAGAGTTAAAGGATCTTTAATCATA 264
                                                                                                                                                                                                                                                        Submitted (16-NOV-1999) Celera Genomics, 45 West Gude Drive, Rockville, MD, USA
This sequence was identified as CDM:10212914 by the submitte For further information on this sequence e-mail to fly@celer*
* NOTE: This is a 'working draft' sequence.

* This sequence will be replaced
                               HTG;
                                            AL513530.2 GI:12750914
                                                              AL513530
                                                                          PROGRESS
                                                                                            Homo sapiens chromosome 6
                                                                                                            AL513530
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Direct Submission
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Adams, M.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Eukaryota; Metazoa; Arthropoda; Tracheata; Hexapoda; Ins
Pterygota; Neoptera; Endopterygota; Diptera; Brachycera;
Muscomorpha; Ephydroidea; Drosophilidae; Drosophila.
1 (bases 1 to 21595)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Drosophila melanogaster
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    HTG; HTGS_PHASE2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     AC014617.1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    pieces
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Drosophila melanogaster,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       truit
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           by the finished sequence as soon as it is the accession number will be preserved.
sapiens
                               HTGS_PHASE1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       and Venter, J.C.
                                                                           ***, 16 unordered pieces
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              /organism="Drosophila melanogaster"
/db_xref="taxon:7227"
3538 c 3704 g 7250 t
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GI:6436718
                                                                                                           193742 bp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       8.2%;
46.0%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   21595 bp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Score 45.6; Di
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   DNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Mismatches 224;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      *
                                                                                            clone RP11-447M22,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SEQUENCING IN PROGRESS ***,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      DB 64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Length 21595;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               available and
                                                                                            *** SEQUENCING
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            the submitter.
to fly@celera.com.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  16-NOV-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      w
••
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 in ordered
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               204
                                                                                             Z
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1,
```

```
COMMENT
                                                           FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      AUTHORS
TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 JOURNAL
                                      source
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Insert size: 192242; sum-of-contigs
Insert size: 175186; 1.1% error; agarose-fp
Quality coverage: 5.03x in Q20 bases; sum-of-contigs Quality
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Sequencing vector: plasmid; 108752; 100% of reads Chemistry: Dye-terminator Big Dye; 100% of reads Consensus quality: 189015 bases at least Q40 Consensus quality: 191018 bases at least Q30 Consensus quality: 191870 bases at least Q20
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      requests: clonerequest@sanger.ac.uk
On Feb 12, 2001 this sequence version replaced gi:12743866
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Submitted (09-FEB-2001) Sanger Centre, Hinxton, Cambridgeshire, CB10 1SA, UK. E-mail enquiries: humquery@sanger.ac.uk Clone
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Center project name: bA447M22
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Center: Sanger
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    coverage: 5.74x in Q20 bases; agarose-fp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Assembly program: XGAP4;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Contact: humquery@sanger.ac.uk
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Web site:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Center code:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Direct Submission
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          NOTE: This is a 'working draft' sequence. It currently consists of 16 contigs. The true order of the pieces is not known and their order in this sequence record is arbitrary. Gaps between the contigs are represented as runs of N, but the exact sizes of the gaps are unknown. This record will be updated with the finished sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ğ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            (bases 1 to 193742)
                                                                                                                                                      149964 150063: gap of
150064 171500: cont
                                                                                                                                                                                       140302 140401: gap of 140402 149963: cont
                                                                                                                                                                                                                                                                                      94617 12377
123776 123875:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         preserved
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         soon as it is available and the accession number will
                                                                                                                                                                                                                                 .29938 130037: gap of 130038 140301: cont
                                                                                                                                                                                                                                                                                                                                 94517 94616:
                                                                                                                                                                                                                                                                                                                                                                        88504 88603:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           http://www.sanger.ac.uk
                                                           Location/Qualifiers
/db_xref="taxon:9606"
                                                                                                                                                                                                                                                                                                                                                                                                      44255: gap of 100 bp
48345: contig of 4090 bp in length
4845: gap of 100 bp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   5594:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       22123:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              27649: gap of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            8569:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          35759:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         vector: plasmid; L08752;
                                                                                             1600: gap of 2
189885: CC 99985
                                                                                                                                                                                                                                                                                             -on
gap of
123775: -
                                                                                                                                                                                                                                                                      13875: gap of 100 bp
129937: contig of 6062 b
                                                                                                                                                                                                                                                                                                                                                            ייטי gap of 100 bp
88503: contig of 40058 bp in length
503: gap of 100 bp
                                                                               9985: gap of
193742: cont
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 99: gap of 100 bp
192: contig of 13454 bp in length
123: gap of 100 bp
27549: contig of 5426 bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                               35659; contig of 8010 bp in length
59; gap of 100 bp
44155; contig of 8396 bp in length
                                                                                                                                                                                                                                                                                                                                                      94516:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            5494: contig of 5494 bp in length
4: gap of 100 bp
8469: contig of 2875 bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Summary Statistics
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Project Information
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Centre
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Genome Center
                                                                                                                                                                                                                                                                                                         contig of
                                                                                                                                                                                                                                                                                                                                             of 100 bp contig of 5913 b
                                                                                                                                                                                                                             contig of
                                                                             contig of
                                                                                                                                                                                         contig of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             version 4.5
                                                                                                                                                                                                                                                                                                     100 bp
f 29159 bp in length
                                                                                                                                                                                               100 bp
9562 bp
                                                                                                         100 bp
18285 bp in length
                                                                                                                                                        100 bp
21437 l
                                                                                                                                                                                                                                 10264 bp in length
                                                                                               dq 00
                                                                                                                                                                                                                                                                                                                                                 bp in length
                                                                                                                                                                                           bp in length
                                                                                                                                                                                                                                                                        bp in length
                                                                                                                                                      bp in
                                                                             in length
                                                    δÃ
                                                                                               В
                                                                                                                                  Q
                                                                                                                                                                           ₽
                                                                                                                                                                                                           ρ
                                                                                                                                                                                                                                                    及
```

```
ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                          BASE COUNT
                                                                                                                                                                                                                                                                                                         Query Match
Best Local Similarity
Matches 252; Conser
                                                                                                                                                                                                                                            88071 ATATATTTACATATGTGTTTATATATTATATATATTTTATATATTTTACATATTTTACATATGTATTTAT 88012
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                        misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 misc_feature
                                                                                                                                              121
                                                                                                                                                                                                              61
                                             CTTGCAATTGGTGGGATACTAATTGTTATAGTTGGTTTAAGAAATCTTTATTCGTGGAGT 240
                                                                                                                                   GCATTAAGCGATCTAGGACATGCTGTTAAAAGCAGTGTTGCTCCAATATTCAATCTAGGT 180
                                                                                                                                                                                                           AGAGTTAAAAGGATCTTTAATCATATCCATGGGTGTATTTCT-TAACTTAATAGGGGTTTT 299
                                                                                                             62033 a
                                                                                                                                                                                                                                                                                                           Conservative
=
-
=
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        88604.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        94617
                                                                                                                                                                                                                                                                                                                                                                                                          /note="assembly_fragment:01274"
34704 c 32982 g 62522 t 1
                                                                                                                                                                                                                                                                                                                                                                                                                                          /note="assembly_fragment:00881"
189986. .193742
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            171601. .189885
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  /note="assembly_fragment:01777
fragment_chain:2"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               /note="assembly_fragment:00732
fragment_chain:1"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             /clone_lib="RPCI-11.2"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      /note="assembly_fragment:00478
fragment_chain:3"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   /note="assembly_fragment:01123
fragment_chain:1"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     'note="assembly_fragment:01550
'ragment_chain:3"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  'note="assembly_fragment:00240
'ragment_chain:3"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    'note="assembly_fragment:00318
:ragment_chain:2"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    'note="assembly_fragment:00536
'ragment_chain:2"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 'note="assembly_fragment:01531
|ragment_chain:2"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    'note="assembly_fragment:01583
!ragment_chain:2"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 'note="assembly_fragment:01623
'ragment_chain:1"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              'note="assembly_fragment:01506
ragment_chain:1"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ragment_chain:3"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      note="assembly_fragment:00827
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          40402.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        30038. .14030
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 note="assembly_fragment:01113
ragment_chain:1"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ragment_
                                                                                                                                                                                                                                                                                                                        8.2%;
46.3%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   8469
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        .94516
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       . 88503
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     .48345
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           .171500
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          .149963
=
-
=
                                                                                                                                                                                                                                                                                                           0
                                                                                                                                                                                                                                                                                                      Pred. No. 5;
); Mismatches
                                                                                                                                                                                                                                                                                                                          Score 45.6;
Pred. No. 5;
                                                                                                                                                                                                                                                                                                                                                                                                        g
_
_
_
=
=
                                                                                                                                                                                                                                                                                                                                    DB 82;
                                                                                                                                                                                                                                                                                                           289;
                                                                                                                                                                                                                                                                                                                                                                                                        1501 others
                                                                                                                                                                                                                                                                                                                                         Length 193742;
                                                                                                                                                                                                                                                                                                           Indels
                                                                                                                                                                                                                                                                                                           ω
--
                                                                                                                                                                                                                                                                                                        Gaps
```

ω

```
REFERENCE
AUTHORS
TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ACCESSION
VERSION
KEYWORDS
SOURCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             REFERENCE
AUTHORS
TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  RESULT 10
DDU68754/c
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Вþ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          õ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              망
                                                                                                                                                                                                                                                                                                                                                                                                  FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      FOCUS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                JOURNAL
MEDLINE
                                                                                                                                                                                                                                                                                                                                                                                                                           JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            87592 GATA 87589
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            87892 TATTTATATATATTTATATCTATTTATATATCTATTTATATATATATATATATATATATATATTTA 87833
                                                                                                                                                                                                                                                                                                              gene
                                                                                                                                                                                                                                                                                   CDS
                                                                                                                                                                                                                                                                                                                                                                                   source
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CGACGAAGTATATGGTTGGATACATTTCCTAGTCTCAGTATTGTTTTTCTTATCAATAAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CATA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TAGGTCATATTGCAATGTGGTATCTACACTTTGCTTCAGAGATTCCGAGAGGTGCTGCTA 478
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TTCCCGAGTTATTAGCGGTATTCTCGTTTTTACCATTCTATATAAGACAGTATTTTAAAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           AGCATAT-TTCATAGCTATATCAATACTTGACAAATCATGGATAGCTGTTCTACTAATAA 418
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1 (bases 1 to 3171)
Chang, W.T., Newell, P.C. and Gross, J.D.
Identification of the cell fate gene stalky
Cell 87 (3), 471-481 (1996)
97053786
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               complete
U68754
                                                                                                                                                                                                                                                                                                                                                                                                           Submitted (03-SEP-1996) Blochemistry, University Parks Road, Oxford OX1 30U, UK
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Dictyostelium
                                                                                                                                                                                                                                                                                                                                                                                                                                          Direct Submission
                                                                                                                                                                                                                                                                                                                                                                                                                                                      Chang, W.-T., Newell, P.C. and Gross, J.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Eukaryota; Mycetozoa; Dictyosteliida;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Dictyostelium discoideum
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Dictyostelium discoideum
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                U68754.1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      DDU68754
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       542
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   (bases 1 to 3171)
        GI:1685114
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          cds.
                                                                                                                                                       /product="putative transcription factor"
/protein_id="AAB36702.1"
/db_xref="GI:1685115"
                                                                                                                                                                                                                        /note="a knock-out of this gene gives the phenotype of loss of the ability to complete spore formation leading the formation of a fruiting body containing only stalk
PKGELEELISIKKKLSKKKSKEGNYYQEEDGAVPYWDMNRYNNNNNNNNGINNNNNNN
                                                                                                                                                                                                               cells"
                                                                                                                                                                                                                                                                                                                                       /organism="Dictyostelium/strain="NC4"
/db_xref="taxon:44689"
                                                                                                                                                                                                                                                                                                                                                                                               Location/Qualifiers
                                                                                                                                                                                                /codon_start=:
                                                                                                                                                                                                                                                                 /gene="stkA"
                                                                                                                                                                                                                                                                                               /gene=
                                                                                                                                                                                                                                                                                                                            /chromosome="2"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      3171 bp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      discoideum
                                                                                                                                                                                                                                                                                                stkA"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      mRNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      putative
                                                                                                                                                                                                                                                                                                                                                                   discoideum"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      transcription
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Dictyostelium
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ANI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             in Dictyostelium
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   27-NOV-1996 factor (stkA) mRNA,
                                                                                                                                                                                                                                                                                                                                                                                                                           of Oxford, South
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  359
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          87653
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                87713
                                                                                                                                                                                                                                        ç
```

```
REFERENCE
AUTHORS
TITLE
                                                                                                                                                                                                                                               REFERENCE
AUTHORS
                                                                                                                                                                                                                                                                                                                                                          SOURCE
ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                      VERSION
KEYWORDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                          RESULT 11
AC010903
LOCUS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Ъ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Ъ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Дb
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Ş
                                                                                                                                                                            COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                              DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                    ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             BASE COUNT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Matches
                                                                                                                                                                                                                    JOURNAL
                                                                                                                                                                                                                                                                           JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1005 TATTGGTTGTTGTTTAAAACTAAATGGCAAAAAACCTTTAAAAATGGACTCTGTATT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1065
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 825
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        93
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               33 GATAATATTTATTCTCAGCTTTTCCTTTCCCATTAACAATGATCGCATTAGCTATCTCTAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CTCAGTATTGTTTTTCTTATCAATAATAGCATATTTCATAGCTATATCAATACT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     GTCGTCATGGTTTAATATATGGAATAATGCATTAAGCGATCTAGGACATGCTGTTAAAAG 152
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TGTATTTCTTAACTTAATAGGGGTTTTTCGACGAAGTATATGGTTGGATACATTTCCTAGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TGGTTTAAGAAATCTTTATTCGTGGAGTAGAGTTAAAGGATCTTTAATCATATCCATGGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CAGTGTTGCTCCAATATTCAATCTAGGTCTTGCAATTGGTGGGATACTAATTGTTATAGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          161;
Direct Submission
Submitted (25-SEP-1999) Genome Sequencing Center, Washington University School of Medicine, 4444 Forest Park Parkway, St. MO 63108, USA
                                                                                     Web site:http://genome.wustl.edu/gsc/index.shtml
                                                                                                                 Center: Washington University Genome Center code: WUGSC
                                                                                                                                                                           9 <del>8</del>
                                                                                                                                                                                                                                            2 (bases 1 to 179401)
Waterston, R.H.
                                                                                                                                                                                                                                                                        Unpublished
                                                                                                                                                                                                                                                                                                    Eukaryota; Metazoa; Chordata;
Mammalia; Eutheria; Primates;
1 (bases 1 to 179401)
Waterston, R.H.
                                                                                                                                                                                                                                                                                                                                                            Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                      AC010903.7 GI:11465184
HTGS_PHASE1; HTGS_DRAFT; HTGS_FULLTOP
                                                                                                                                                                                                                                                                                                                                                                                                                                              Homo sapiens chromosome
                                                                                                                                                                                                                                                                                                                                                                                                                                                             AC010903
                                                                                                                                                                                                                                                                                        The sequence of Homo sapiens clone
                                                                                                                                                                                                                                                                                                                                                                         numan
                                                                                                                                                                                                                                                                                                                                                                                                                                unordered pieces.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1538
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Conservative
                                                                                                                                                                           30,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             þ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       NNNNNNNSNNNNSSYNNNNSNNNNNNRIEPIVNNNINNFNSINNNNSNNNNNNNNNSTSQ
NAPLLCRLIHVVENQLLEPNELSSIREDIDIMKNDLTLRKKERLAQLNDLKOKANNDV
QILKANIEKGSNQRSNETKSFITELKQEIDKRINQYTHIYIPDDHHLVPSSTNYLSID
SLQNSSSSNNYCTIHNSNNNNNNNNNNNKRSLVNLSPELIHSPLKKPMVGGYRDEQGM
KHFSIDGDNLSLPSIS*
8 883 t
                                                                                                                                                             USA
, 2000 this sequence version replaced gi:11323453
                                                                                                                                                                                                                                                                                                                                                                                                                                                            179401 bp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        8.1%;
45.5%;
                                                                                                                                               Genome Center
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          0,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Score 45.2; DI Pred. No. 8.7;
                                                                                                                                                                                                                                                                                                                                                                                                                                            DNA
2 c
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Mismatches 193;
                                                                                                                                                                                                                                                                                                                                                                                                                                             clone
                                                                                                                                                                                                                                                                                                                                Craniata; Vertebrata; Euteleostomi; Catarrhini; Hominidae; Homo.
                                                                                                                                                                                                                                                                                                                                                                                                                                              RP11-550H9,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     DB 6;
                                                                                                                                Sequencing
    of reads
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                            14-DEC-2000
WORKING DRAFT SEQU
                                                                                                                                 Center
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      3171;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            386
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          0;
                                                                                                                                                                                                                                                                                                                                                                                                                                             SEQUENCE,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 212
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              886
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1006
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        826
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  332
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         272
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     946
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                92
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1066
                                                                                                                                                                                                     Louis,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         0;
```

```
BASE COUNT
ORIGIN
                                                                                                                                                                                                                                                                         Db 116741
                                                                                                                                                                                                                                                                                                                                                   Db 116681
                                                                                                                                                                                                                                                                                                                                                                                                                            FEATURES
                                      AC021920
                                                                                                                    Db 116861
DEFINITION
                      Cocus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Query Match
Best Local Similarity
                                                                                                                                                                                              116801
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          source
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    150
                                                                                                                                                                                                                                                                                                                                                                                       210
                                                                                                                                                                                                                                   330
                                                                                                                                                                                                                                                                                                               270
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            90 TATGTCGTCATGGTTTAATATGGAATAATGCATTAAGCGATCTAGGACATGCTGTTAA 149
                                                                                                                  GGGTGTATTTCTTAACTTAATAGGGGTTTTCGACGAAGTATATGGTTGGATACATTTCCT 329
                                                                                                                                                      CAAATCATGGATAGCTGTTCTACTAATAATAGGTCATATTGCAATGTGGTATCTACA 446
                                                                                                                                                                                          AGTCTCAGTATTGTTTTCTTATCAATAATAGCATATTTCATAGCTATATCAATACTTGA 389
                                                                                                                                                                                                                                                                     AAGCAGTGTTGCTCCAATATTCAATCTAGGTCTTGCAATTGGTGGGATACTAATTGTTAT 209
                                                                                                                                                                                                                                                                                                                                                                                     AGTTGGTTTAAGAAATCTTTATTCGTGGAGTAGAGTTAAAGGATCTTTAATCATATCCAT 269
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      162;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Insert size: 174000; agarose-fp
Insert size: 179201; sum-of-contigs
Quality coverage: 6.28 in Q20 bases; agarose-fp
Quality coverage: 6.19 in Q20 bases; sum-of-contigs
AC021920 84346 bp DNA
Homo sapiens clone RP11-23J11,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Consensus quality: 176429 bases at least Q40 Consensus quality: 177554 bases at least Q30 Consensus quality: 178057 bases at least Q20
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Assembly program:
Consensus quality
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           as soon as i
be preserved
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 is not known and their order in this sequence record is arbitrary. Gaps between the contigs are represented as runs of N, but the exact sizes of the gaps are unknown. This record will be updated with the finished sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         NOTE: This is a 'working draft' sequence. It curren consists of 3 contigs. The true order of the pieces
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       58216
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    34793
34893
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       D
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             /note="assembly_name:Contig12"
75349. .179401
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       34893.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       vector_side:right"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1. .34792
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       /note="assembly_name:Contig13
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               /note="assembly_name;Contig11"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              clone="RP11-550H9"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  'chromosome="2"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  /organism="Homo sapiens"
/db_xref="taxon:9606"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   32501 c 32026 g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           one_end:SP6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          34792: contig of 34792 bp in 34892: gap of unknown length 75248: contig of 40356 bp in 75348: gap of unknown length 179401: contig of 104053 bp in
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               it is available and the accession number will
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    8.1%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       .75248
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Phrap;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Score 45;
Pred. No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Mismatches 195;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          version 0.990319
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     56457 t
LOW-PASS SEQUENCE SAMPLING
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      DB 62;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     201 others
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Length 179401;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             It currently
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  0
```

οy

ş

δÃ

Q 멍 δÃ

```
COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SOURCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            KEYWORDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 VERSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Chepel, Y., Colangelo, M., Collins, S., Collymore, A., Cooke, P.,
DeArellano, K., Dewar, K., Domino, M., Doyle, M., Fenestor, J.,
Ferreira, P., Fitzhugh, W., Forrest, C., Gage, D., Galagan, J.,
Gardyna, S., Grant, G., Hagos, B., Heaford, A., Horton, L.,
Gardyna, S., Grant, G., Hagos, B., Heaford, A., Horton, L.,
Howland, J.C., Johnson, R., Jones, C., Kann, L., Karatas, A., Klein, J.,
Landers, T., Lehoczky, J., Levine, R., Lieu, C., Liu, G., Locke, K.,
Macdonald, P., Marquis, N., McEwan, P., McGurk, A., McKernan, K.,
Macdonald, P., Marquis, N., McEwan, P., McGurk, A., McKernan, K.,
McChheeters, R., Meldrim, J., Meneus, L., Morrow, J., Naylor, J.,
Norman, C. H., O'Connor, T., O'Donnell, P., Olivar, T. M., Peterson, K.,
Pierre, N., Pisani, C., Pollara, V., Raymond, C., Rlley, R., Rothman, D.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Submitted (22-JAN-2000) Whitehead Institute/MIT Center for Genome Research, 320 Charles Street, Cambridge, MA 02141, USA On Jul 13, 2000 this sequence version replaced g1:6730861.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   All repeats were identified using RepeatMasker:
Smit, A.F.A. & Green, P. (1996-1997)
http://ftp.genome.washington.edu/RM/RepeatMasker.html
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Direct Submission
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Pierre, N., Pisani, C., Pollara, V., Raymond, C., Riley, R., Rothman, D., Roy, A., Santos, R., Severy, P., Spencer, B., Stange-Thomann, N., Stojanovic, N., Subramanian, A., Talamas, J., Tesfaye, S., Theodore, J., Talanas, J., 
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Anderson, S., Baldwin, J., Barna, N., Beckerly, R., Beda, F
Boguslavkiy, L., Boukhgalter, B., Brown, A., Burkett, G.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Birren, B., Linton, L.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Unpublished
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Birren, B., Linton, L.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Homo sapiens, clone RP11-23J11
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 HTG; HTGS_PHASEO
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           AC021920.2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Zimmer,A. and Zody,M.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Firrell,A., Vassiliev,H., Viel,R., Vo,A., Wu,X., Wyman,D., Ye,W.J.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   NOTE: This record contains 79 individual sequencing reads that have not been assembled into contigs. Runs of N are used to separate the reads and the order in which they appear is completely arbitrary. Low-pass sequence sampling is useful for identifying clones that may be gene-rich and allows overlap relationships among clones to be deduced. However, it should not be assumed that this clone in the content of the content o
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    will be sequenced to completion. In the event the the record is updated, the accession number will
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               be preserved.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          (bases 1 to 84346)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   (bases 1 to 84346)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Center project Information Center project name: L4379 Center clone name: 23_J_11
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Contact: sequence_submissions@genome.wi.mit.edu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Web site: http://www-seq.wi.mit.edu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Center code: WIBR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Center: Whitehead Institute/ MIT Center
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     935 1034: 1
1035 20
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            2117 3116: contig of 1000 bp in length 3117 3216: gap of 1000 bp in length 3217 4132: contin - - - - 100 bp 4133 4000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  4133 4232:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Eutheria; Primates; Catarrhini; Hominidae; Homo.
                                                                                                    7376: gap
8361:
                                                                                                                                                                                                                                                        6351:
                                                          8461:
                                                                                                                                                                                                                                                                                                                                                                  5276:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GI:9128599
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           100 bp
                                                                                                                                                                                                                                                                                                                                                                                                                  2: gap
5176:
1: gap
9418:
                                                                                                                                                                                                         I: gap
7276:
                                                                                                                                                                                                                                                                                                        6: gap
6251:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    934: contig of 934 bp
                                                                                                                                                                                                                                                                                                                                                        contig of 916 bp i
p of 100 bp
contig of 944 bp i
p of 100 bp
                                          contig of 925 l
o of 100 bp
contig of 985 l
o of 100 bp
                                                                                                                                                                                                                                                   contig of 975
of 100 br
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Nusbaum, C., Lander, E., Abraham, H., Allen, N.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Nusbaum, C. and Lander, E.
                                                                                               100 bp
     100 bp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                100 bp
                                                                                                                                                                                                                                                        100 bp
                                                                                               ďď
     bp in length
                                                                                                                                                                                              bp in
                                                                                                                                                                                                                                                                                                        bp in
                                                                                                    in
                                                                                                                                                                                                                                                                                                                                                                                                             in
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    in length
                                                                                               length
                                                                                                                                                                                                                                                                                                                                                                                                             length
                                                                                                                                                                                                   length
                                                                                                                                                                                                                                                                                                        length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        for Genome Research
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Castle, A.,
```

0622 11585: contig of 964 1586 11685: gap of 100 k 1686 12674: contig of 989

bp in length

bp in length

12774: gap of 13775: con

contig of

bp in lengt

908

2 10621:

gap of

1585

9518:

0521: contig

of.

bp 1003 bp in length

866 15965:

17044:

gap of

contig of

bp in bp in length

length

76 13875: gap of 10 76 14783: contig of 9 76 14783: gap of 10 76 14883: gap of 10 84 15865: contig of 9 66 15965: gap of 10 66 159644: contig of 10

bp in bp in

length length

986 18085:

gap of

100 bp

963

bp in length

```
В
                                                                              Š
                                                                                                         Вb
                                                                                                                                  Q
                                                                                                                                                                Db
                                                                                                                                                                                        δã
                         δã
                                                                                                                                                                                                                      Matches
                                                                                                                                                                                                                                   Query Match
Best Local
                                                                                                                                                           61163 TGTATAAGCATTCTCTTTTCTCTGTAGTCTTGCCAGTTATCTATTGTTTTATGACTATTT 61222
                                                   61223 AAAAAATAGTCATTCCGACTTGTGTGAGATTGTATCTCATTGTGGTTTTGATTTACATTT
                                                                                                                          170 TCAATCTAGGTCTTGCAATTGGTGGGATACTAATTGTTATAGTTGGTTTAAGAAATCTTT 229
                        290 TAGGGGTTTTCGACGAAGTATATGGTTGGATACATTTCCTAGTCTCAGTATTGTTTTTCT 349
                                                                                                                                                                                        110 TATGGAATAATGCATTAAGCGATCTAGGACATGCTGTTAAAAGCAGTGTTGCTCCAATAT 169
                                                                                                                                                                                                                     Local Similarity 46.:
es 148; Conservative
TTTGAGAAGTATCTCCTGATGTTATTTGATCGTTTTTAATAGAATTATTTGTTTTTTTCT 61402
                                                                    ATTCGTGGAGTAGAGTTAAAGGATCTTTAATCATATCCATGGGTGTATTTCTTAACTTAA
                                                                                                                                                                                                                                                                                                                                                                                            68395 68494: gap of 100 bp
68495 69484: contig of 990 bp
69485 69584: gap of 100 bp
695885 70506: contig of 922 bp
70507 70606: gap of 100 bp
70607 71547: contig of 941 b
                                                                                                                                                                                                                                                                                                                                                                               70607 7154.
71548 71647:
                                                                                                                                                                                                                                                                                                                                                                                                                                                  73655 73754: gap of 100 bp
73755 74680: contig of 926 bp in length
74681 74780: gap of 100 bp
74781 75782: contig of 1002 bp in lengt
75783 75882: gap of 100 bp
                                                                                                                                                                                                                                                                                                                                                            2630 72729:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      73 53372: gap of 100 bp.
73 54370: contig of 998 bp.
71 54470: gap of 100 bp.
71 55469: contig of 999 bp.
70 55569: gap of 100 bp.
70 55644: contig of 975 bp.
45 56644: gap of 100 bp.
45 57668: contig of 1024 bp.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              51193: gap of 1
52181: contig of
52281: gap of 1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             61013:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         58828: gap of 100 b
59829: contig of 1001
59929: gap of 100 b
59929: gap of 984
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               57768:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 48930: contig
49030: gap of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         50105:
                                                                                                                                                                                                                                8.1%;
                                                                                                                                                                                                                                                                                                                                           29: gap of 100 k
73654: contig of 925
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       53272
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      50005
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             51093
                                                                                                                                                                                                                                                                                                                                                                     7: gap of 100 bp
2629: contig of 982 bp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               3: gap of 100 bp
2013: contig of 1000 bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  8728
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         gap of 100 L
28: contig of 960
                                                                                                                                                                                                                   Score 44.8; DE Pred. No. 7.9; 0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    contig of 991
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           contig of
                                                                                                                                                                                                                     0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              of 1015 bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                       100 bp
                                                                                                                                                                                                                                                                                                                                                                                         100 bp
f 941 bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             100 bp
f 984 bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       100 bp
f 1001 bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             100 bp
                                                                                                                                                                                                                                                                                                                                           bp
5 bp in
                                                                                                                                                                                                                                                                                                                                                                      bp in
                                                                                                                                                                                                                                             DB 67; Length 84346;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                             in
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               in length
                                                                                                                                                                                                                                                                                                                                           length
                                                                                                                                                                                                                                                                                                                                                                                                                             length
                                                                                                                                                                                                                                                                                        length
                                                                                                                                                                                                                     Indels
                                                                                                                                                                                                                   0;
                                                                                                                                                                                                                  Gaps
                                                                              289
                                                                                                        61282
                                                                                                                                                                                                                   0;
```

4690 44789:

12653: gap of 100 bp in 1
43612: contig of 959 bp in 1
43712: gap of 100 bp in 1
44789: contig of 977 bp in 1
44789: gap of 100 bp in 1
45718: contig of 929 bp in 1
45818: gap of 100 bp in 1
45818: gap of 100 bp in 1
45818: gap of 100 bp in 1

43712: 42653: 41578:

46847: 45818:

length

length

47: gap of 1 47815: contig of 1 15: gap of 1

0411 40510:

0510: gap of 1 41478: contig of 1578: gap of 1 42553: contig of

100 bp f 975 bp in

length length

length

bp in

39477

177: gap of 1

100 bp of 933 bp in 100 bp f 968 bp

6160 36259:

35162: 34060:

of 1002 bp in length
100 bp
of 997 bp in length
100 bp
of 965 bp in length

2886 32985:

1938: gap of 10
32885: contig of 9
2885: gap of 10
33960: contig of 9
4060: gap of 10
35062: contig of 10
35162: gap of 10
5162: gap of 10

100 bp f 975 bp in length 100 bp

839 31938:

100 bp f 947 bj

bp in length bp in length

87 30886:

100 bp

952

100 bp : 966 bp in length

96 28795: gap of 106 29720: contig of 112 29820: gap of 112 30786: contig of 113 30886: gap of 113 31838: contig o

7616 27715:

dq\_001 100 pl

bp in length

925

bp in length

100 bp

158 25557:

26641:

4505: gap of 10 25457; contig of 9 5557; gap of 10 6641; gap of 10 6241; contig of 9 7715: gap of 10 7865; contig of 9

100 bp f 974 bp in length

100 bp 984 bp in length

06 24505:

100 bp f 952 bj

bp in

length

100 bp

980 980 970

bp in length bp in length bp in length

969

bp in length

17 23436:

57 22356:

276: gap of 10 22256: contig of 9 1356: gap of 10 23336: contig of 9 1436: gap of 10 24405: contig of 9

07 20206:

19048: contig of 9148: gap of 920106: contig of 920106: contig of 920176: contig of

100 bp

100 bp E 958 bp in length

19148:

19048 17985

21276:

160 36259: gap of 10 260 37224: contig of 9 225 37324: gap of 10 325 38293: contig of 9 1294 38393: gap of 10 1394 39377: contig of 9

100 bp of 969 bp in length 100 bp of 984 bp in length

		FEATURES	JOURNAL	AUTHORS TITLE	JOURNAL	TITLE	REFERENCE AUTHORS	JOURNAL MEDLINE	AUTHORS TITLE	MEDLINE REFERENCE	JOURNAL	TITLE	REFERENCE	TOHBUNT	AUTHORS TITLE	REFERENCE	TANGINA	AUTHORS TITLE	REFERENCE	ONGENTON	SOURCE								VERSION KEYWORDS	ACCESSION	LOCUS	RESULT 13		61463	Qy 410 s	61403	Qу 350
/Strain 21 /db_xref="taxon:4907" /note="synonym:Hansenula wingei"		(E-mail:R515582@J Location 1 2760	Submitted (07-JUN-1994) to the DDBJ/EMBL/GenBank databases. Kazuo Yoshida, Hiroshima University, Department of Biological Science; 1-3-1 Kagamiyama, Higashi-Hiroshima, Hiroshima 739, Japan	oshida,K. irect Submission	yeast Hansenula wingei Genes Genet. Syst. (1996) In press 6 (hases 1 to 27604)	dary structur nucleotide se	5 (sites) Okamoto,K., Sekito,T. and Yoshida,K.	•	Sekito, T., Okamoto, K., Kitano, H. and Yoshida, K. Clone bank of the mitochondrial genome of yeast Hansenula wingei	96022424 4 (sites)	new characteristics of yeast mitochondria Curr. Genet. 28 (1), 39-53 (1995)	The complete mitochondrial DNA sequence of Hansenula winger reveals	3 (bases 1 to 27694)	,	Sekito,T., Okamoto,K., Kitano,H. and Yoshida,K. Yeast Hansenula wingei mitochondria genome's complete DNA sequence	2 (sites)	Dotanical Congress 503-504 (1993)	Yoshida, K. The structure and organization of mitochondrial genome in Hansenula	) Yeeraceae,	Eukaryota; Fungi; Ascomycota; Saccharomycetes; Saccharomycetales; Saccharomycetaceae. Bichia	Pichia Canadam (Strain:21) mitochondrion DNA. Witochondrion Dichia canadamsia	r RNA-Leul; transfer RNA-Met3;	tRNA-Ile; tRNA-Leu2; tRNA-Lys; tRNA-Phe; tRNA-Pro; tRNA-Thr; tRNA-Tyr; tRNA-Val; transfer RNA-Arg-1; transfer	tRNA-Asp; tRNA-Cys; tRNA-Gln; tRNA-Glu; tRNA-Gly; tRNA-His;	subunit III; endonuclease homologue protein; large subunit	<pre>dehydrogenase subunit 6; apocytochrome b; cytochrome c oxidase subunit I; cytochrome c oxidase subunit II; cytochrome c oxidase</pre>	dehydrogenase subunit 3; NADH dehydrogenase subunit 4; NADH dehydrogenase subunit 5; NADH	dehydrogenase subunit 1; NADH dehydrogenase subunit 2; NADH	D31785.1 GI:1000971 ATPase subunit 6; ATPase subunit 8; ATPase subunit 9; NADH	THEOLOGISTS	27694 bp DNA circular PLN				TACTAATAATAGGTCATATT 429		TATCAATAATAGCATATTTCATAGCTATATCAATACTTGACAAATCATGGATAGCTGTTC 409
gene	exon		intron				,			CDS										CDS		exon	gene	gene			tRNA		gene		CAMO	tRNA	gene		trna		exon
/number=2 /evidence=not_experimental 41154261	/evidence-noc_experimental 2963. 3847 /gene="COX1"	+ 1	NSYVRPNSSRTTKFNKLMLCSKYYDLINIKAWLIFNKNFNSKE" 1964 2962 /gene="COX1"	NYYFKNNYPQLTISYSNKKYIDLKPPMDIFGGNIYYDKSNNGCYKWSIQSKTDILFFI NYYFKNNYPQLTISYSNKKYIDLKPPMDIFGGNIYYDKSNNGCYKWSIQSKTDILFFI	/translation="LYIMPIWYEIINLYFAICWKLLIIIKYKFKLITIYISLLYNNIL YKLAIIVKILIYYNNNQQITNNNIKIIKRYKSYLVGISETIRNSDLDKKDIKFNQWL	/protein_id="BAA06564.2" /db_xref="GI:11036338"	/evidence=not_experimental /product="intronic ORF"	/codon_start=1 /trans1 table=4		SIKSASIEFLLNSPPAIHSFNTPAVQS" <1964 2923	GYYYWSPQILGLYFNERLAQIQFWLIFYGANVIFMPMHFLGLQGMPRRIPDYPDAYAG WNYVSSIGSVIAIISLALFIYIIYDQLINGLTNKIDNKSVVYSKAPDFVESNTIFANN	AMASIAFLGFLYWSHHMYIVGLDADTRAYFTSSTMVIAVPTGIKIFSWLATLYGGSIR LAVPMLYAIAFLFLFTIGGLTGVALANASLDVAFHDTYYVVGHFHYVLSMGAIFSLFA	LGALNFIATSYNMRTNGMSYSKMPLFYMAIIITAVMLLLSLPYLTAGVTMLLMDRNEN TSFFEVAGGGDPYLYQHLFWFFGHPEYYILIVPGFGIISHIVSTYSKKPVFGEISMVY	SFWLLPPALVCLVASTLIESWAGTGWTIYPPLSGIQAHSSPSVDLGIFAIHLTSISSL	<pre>/translation="myIQRWLYSTNAKDIAILYFIFAIFSGVIGSTMSL1IRLELAAP GNQILHGNHQLFNVLVVGHALLMIFFLVMPGLVGGFGNYMLPLLIGASDMSFARLNNI</pre>	/protein_id="BAAU6563.2" /db_xref="GI:11036337"	/product="cytochrome c oxidase subunit 1"	<pre>/transl_table=4 /evidence=not_experimental</pre>	/codon_start=1	/evidence=not_experimental join(1241. 1963,2963. 3847) /coo_="cov1"	/pumber=1	1241 1963	12413847 /gene="COX1"	832903 /gene="trnA-C"	/product="transfer RNA-Cys"	/note="anticodon=gca" /evidence=not experimental	832903 /gene="trna-c"	/gene="tRNA-E"	/product="transfer RNA-Glu" 714785	/note=_dnttcodon=uuc" /evidence=not_experimental	/gene_"iRNA-E"	/gene="trna-T" 714 785	/product="transfer RNA-Thr" 547. 619	/note="anticodon=ugu" /evidence=not_experimental	547619 /gene="trnA-T"	/gene="LSU" /number=2	1. 502

```
Matches
                                                                                   Query Match
Best Local
gene
                                                                                                                                                                                                                     gene
                                                                                                                                                     CDS
                                                                                                                                                                                                                                                                                                                                      gene
                                                                                                                                                                                                                                                                                                                                                                                                                                                     gene
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        gene
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       gene
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            tRNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            gene
                                                                                                                                                                                                                                                                                                       tRNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          trna
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         tRNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CDS
                               42 TATTCTCAGCTTTTCTTTCCCATTAACAATGATCGCATTAGCTATCTCTATGTCGTCATG 101
                                                                                   Similarity
                                                                     Conservative
                                                                                                                                         /gene="ND6"
6330. Fr
                                                                                                                                  6330. .6953
/gene="ND6"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             /gene="ATP8"
4115. .4261
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          /evidence≃not_experimental
/product="transfer RNA-Ile"
5299. .5369
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       PLAGILAIVALEFAIAMIQSYVFAILASGYIKDGLYLH"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    /translation="MTNIIVNSPLDQEDIKVEIGEVSPEIDLININITTETVYSVEIL
TVILGLILLTDNNGRIIGNRWYVSQEAMYDTINNMYSGQIGGKLGGYYEPLIYTTEIF
IFTANLIGMYPYSPAITSHWYEIISISVYTMLGVTIIGLYTHGLIFFALEVPAGCEL
LAPLLVLIELLSYSARAISLGLRLSANTLSGHLLMVILGGLVFNLMSVSIVTFVLGFI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        /evidence=not_experimental
/product="ATPase subunit 6"
/protein_id="BAA06566.2"
/db_xref="GI:11036340"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            /evidence=not_experimental
/product="ATPase subunit 8"
/protein_id="BAA06565.2"
/db_xref="GI:11036339"
                                                                                                                                                                                                                                                                                                                                                    /evidence=not_experimental
/product="transfer RNA-Tyr"
                                                                                                                                                                                                                                                   evidence=not_experimental
                                                                                                                                                                                                                                                                                                                                                                                                      /gene≖"tRNA-γ"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       /evidence=not_experimental
/product="transfer RNA-Serl"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        /gene="tRNA-S1"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         /gene≖"tRNA-I"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         /gene="ATP6"
                                                                                                                                                                                                    gene="trNA-N"
                                                                                                                                                                                                                                     'product="transfer RNA-Asn"
                                                                                                                                                                                                                                                                    'note="anticodon=guu"
                                                                                                                                                                                                                                                                                     'gene="tRNA-N"
                                                                                                                                                                                                                                                                                                                                                                                       'note="anticodon=gua"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    'evidence=not_experimental
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        'note="anticodon=gau"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          transl_table=4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            'gene="ATP6"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             transl_table=4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              'gene="ATP8"
                                                                                                                                                                                                                                                                                                                                                                                                                                       gene="tRNA-A"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     product="transfer RNA-Ala"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        note="anticodon=ugc"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         'gene="tRNA-A"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      gene-"tRNA-S1"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       note-"anticodon-uga"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            codon_start=1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           translation="MPQLVPFYFLNQLTYGFLLLIILLVLFSQFLLPRILRLYISRLF"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            codon_start=
                                                                                 8.0%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                          . 5680
                                                                                                                                                                                                                                                                                                                      tRNA-Y"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         trna-I"
                                                                  Score 44.4; D
Pred. No. 10;
0; Mismatches
                                                                  0;
                                                                                                   DB 14;
                                                                  216;
                                                                                                 Length
                                                                  Indels
                                                                                                   27694;
                                                                  0
                                                                  Gaps
                                                                  0
```

B 6

```
REFERENCE
AUTHORS
TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               KEYWORDS
SOURCE
ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               AC027632
                                                                                                                                                                                                                                                                                                                                                                                                                                                          COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        DЬ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         20
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Дb
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Q_{\mathbf{y}}
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Ъ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Db
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     VERSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Locus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       23298
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               23238
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           162
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                102
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  222
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             282
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TATATTATTAATTATATTACTCTTAC 23029
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         AGCTGTTCTACTAATAATAGGTCATATTGC 431
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           GTTTTTCTTATCAATAATAGCATATTTCATAGCTATATCAATACTTGACAAATCATGGAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ATCATTTATAGTTATTATTTGATGATAATATATAATTAAAATTAATATATACCTTATT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             AAATCTTTATTCGTGGAGTAGAGTTAAAGGATCTTTAATCATATCCATGGGTGTATTTCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TAACTTAATAGGGGTTTTCGACGAAGTATATGGTTGGATACATTTCCTAGTCTCAGTATT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ATTATAATGATATTAATCTATTTGATTCTATAATAACTTTTTTATTATAATTTACT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TCCAATATTCAATCTAGGTCTTGCAATTGGTGGGATACTAATTGTTATAGTTGGTTTAAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              GTTTAATATATGGAATAATGCATTAAGCGATCTAGGACATGCTGTTAAAAGCAGTGTTGC
                                                                                                               Chemistry: Dye-primer ET; 93% of reads themistry: Dye-terminator Big Dye; 7% of read Assembly program: Phrap; version 0.99319 consensus quality: 172750 bases at least Q40 consensus quality: 176629 bases at least Q30 consensus quality: 178424 bases at least Q30 consensus quality: 178424 bases at least Q20 Insert size: 191000; agarose-fp Insert size: 184940; sum-of-contigs
                                                                            Quality coverage: 4.41 in Q20 bases; agarose-fp Quality coverage: 4.66 in Q20 bases; sum-of-contigs
                                                                                                                                                                                                                                                                                                                                                                                                                                                        9 N
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Submitted (30-MAR-2000) Genome Sequencing Center, Washington University School of Medicine, 4444 Forest Park Parkway, St.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Waterston, R.H.
Direct Submission
                                                                                                                                                                                                                                                                 Sequencing vector: M13; 95% Sequencing vector: plasmid; 5%
                                                                                                                                                                                                                                                                                                                         Center project name: H_NH0487E01
                                                                                                                                                                                                                                                                                                                                                                                   Center code: WUGSC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Homo sapiens chromosome 1 clone RP11-487E1, 23 unordered pieces.
                                                                                                                                                                                                                                                                                                                                                            Web site:http://genome.wustl.edu/gsc/index.shtml
                                                                                                                                                                                                                                                                                                                                                                                                  Center: Washington University
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Unpublished
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      The sequence of Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Waterston, R.H.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Eukaryota; Metazoa; Chordata; Mammalia; Eutheria; Primates;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     AC027632.6 GI:9929791
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   HTG; HTGS_PHASE1; HTGS_DRAFT
       NOTE: This is a 'working consists of 23 contigs. The is not known and their or
                                                                                                                                                                                                                                                                                                                                                                                                                                                        Aug 26,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ·(bases 1 to 185926)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             (bases
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           USA
                                                                                                                                                                                                                                                                                                                                                                                                                     ---- Genome Center ----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1 to 185926)
                                                                                                                                                                                                                                                                                                                                                                                                                                                      2000 this sequence version replaced gi:9838225
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              185926 bp
                                                                                                                                                                                                                                                                                                      Summary Statistics
                                                                                                                                                                                                                                                                                                                                            Project Information
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                DNA
           order
draft' sequence. It currently true order of the pieces
                       The true
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Craniata; Vertebrata; Euteleostomi; Catarrhini; Hominidae; Homo.
                                                                                                                                                                                                                                                                                                                                                                                                  Genome
                                                                                                                                                                                                                                                                                                                                                                                              Sequencing
                                                                                                                                                                                                                             reads
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              HTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        WORKING DRAFT SEQUENCE,
                                            It currently
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              26-AUG-2000
           ż
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       221
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                401
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         341
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                161
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    23119
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             23179
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                281
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     23239
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Louis,
```

```
misc_feature
                                       misc_feature
                                                           misc_feature
                                                                               misc_feature
                                                                                                    misc_feature
                                                                                                                         misc_feature
                                                                                                                                             misc_feature
                                                                                                                                                                 misc_feature
                                                                                                                                                                                                                     source
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    arbitrary. Gaps between the contigs are represented as runs of N, but the exact sizes of the gaps are unknown. This record will be updated with the finished sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    as soon as it is available and the accession number will be preserved.
                                                                                                                                                                                                                                         79355
94211
94311
111263
111363
111363
112867
132867
132967
159750
                                                                                                                                                                                                                                                                                                                                                                                                                                                     41630
41730
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              31515
                                                                                                                                                                                                                                                                                                                                                          69972
                                                                                                                                                                                                                                                                                                                                                                    61863
                                                                                                                                                                                                                                                                                                                                                                                                                                            46505
                  /note="assembly_name:Contig22
clone_end:T7
                                                                                                                                                                                                                              Location/Qualifiers
vector_side:left"
18110. .22346
                                                                                                                                                                                      /organism="Homo sapiens"
/db_xref="taxon:9606"
/chromosome="1"
                                                                                                                                              /note="assembly_name:Contig16"
1573. .2852
                                               note="assembly_name:Contig21
                                                                    note="assembly_name:Contig20"
                                                                                                                                 note="assembly_name:Contig17"
                                                                                                                                                                            /clone="RP11-487E1"
                                                                                         note="assembly_name:Contig19"
                                                                                                             note="assembly_name:Contig18"
                                                                                                     .8040
                                                                                 .11050
                                         .18009
                                                             .14348
                                                                                                                                                                                                                                        gap of unknown contig of 26077
                                                                                                                                                                                                                                                                       gap of
                                                                                                                                                                                                                                                                                           gap of
                                                                                                                                                                                                                                                                                                                                            contig
                                                                                                                                                                                                                                                                                                                                                         gap of
                                                                                                                                                                                                                                                                                                                                                                           gap of
                                                                                                                                                                                                                                                                                                                                                                                                                    gap of
                                                                                                                                                                                                                                                                                                                                                                                                                                          gap o
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        gap of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            gap of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               gap of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          gap of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      gap of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  contig
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     contig
                                                                                                                                                                                                                                                                                                                                                                                                           contig
                                                                                                                                                                                                                                                                                                                                                                                                                                                               gap of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  gap of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       contig
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          contig
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    gap of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     contig
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             gap of
                                                                                                                                                                                                                                                                                 of unknown length
lg of 21504 bp in
                                                                                                                                                                                                                                                                                                                                                                                    f unknown
g of 4504
f unknown
g of 4386
f unknown
f unknown
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         f unknown
j of 4237
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         f unknown
g of 1280
f unknown
                                                                                                                                                                                                                                                                                                                                                                  of 8109
                                                                                                                                                                                                                                                                                                                                                                                                                                                  unknown
of 4775
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      unknown
of 5277
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           unknown
of 4738
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                unknown
of 4051
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      unknown
of 4817
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              unknown
of 3561
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   unknown
of 3198
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       unknown
of 2910
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            unknown
of 3199
                                                                                                                                                                                                                                                                                          of 16952 bp in
unknown length
                                                                                                                                                                                                                                                                                                                        unknown length
of 14856 bp in
                                                                                                                                                                                                                                                              of 26783 bp in
                                                                                                                                                                                                                                                                                                               unknown length
                                                                                                                                                                                                                                                                                                                                             of 9183
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 of 1789
                                                                                                                                                                                                                                                                     unknown length
                                                                                                                                                                                                                                                                                                                                                        unknown
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        of 1472
                                                                                                                                                                                                                                                                                                                                              đq
                                                                                                                                                                                                                                                                                                                                                                                                                              gd
                                                                                                                                                                                                                                                                                                                                                                                                                                                   dq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       đđ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       đđ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                dq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        dq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            bp in
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ďď
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           bp in
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Length
                                                                                                                                                                                                                                                                                                                                                                           length
                                                                                                                                                                                                                                                                                                                                                                                                                                          length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      length
                                                                                                                                                                                                                                                                                                                                                        length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  length
                                                                                                                                                                                                                                                                                                                                                                                                  Length
                                                                                                                                                                                                                                                                                                                                                                                                                    ength
                                                                                                                                                                                                                                                                                                                                                                                                                                                               ength
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ength
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            in length
                                                                                                                                                                                                                                                                                                                                                                  in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                   in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    in length
                                                                                                                                                                                                                                                                                                                                                                                      length
                                                                                                                                                                                                                                                                                                                                                                                                         length
                                                                                                                                                                                                                                                                                                                                                                                                                              length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         length
                                                                                                                                                                                                                                                                                                                                             length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                length
                                                                                                                                                                                                                                                                                                                        length
                                                                                                                                                                                                                                                          length
                                                                                                                                                                                                                                                                                Length
                                                         ACCESSION
                                                                             RESULT 1
AC003991
LOCUS
                                                                                                                                                                                                                                                                               δÃ
                                                                                                                                                                                                                                                                                                                       Qy
                            SOURCE
                                                                                                                                                                           문
                                                                                                                                                                                             Qy
                                                                                                                                                                                                                                       Ω
                                                                                                                                                                                                                                                                                                                                                                                               BASE COUNT
ORIGIN
                                     KEYWORDS
                                                 VERSION
                  ORGANISM
                                                                                                                                                                                                                                       318
```

FEATURES

Homo sapiens Eukaryota; Metazoa; Mammalia; Eutheria;

Chordata; Craniata; Vertebrata; Euteleostomi; Primates; Catarrhini; Hominidae; Homo.

HTG AC003991.1

GI:2772535

from

7q21, complete sequence

04-FEB-2000

```
Db 110401 ATCTCT 110406
                                                                                                                                                                                                                                                                                               Db 110281 TTAAGCATTTGTAGTGAGCTTTGGGAAATTCTGTTCTCTAAGAAAACTTTTATGAGCTTT 110340
                                                                                                                                                                                                                                                                                                                                                                             Db 110221 AAGGTTATGTTTCTGCTACTTGGGTTCGATAATAGTGGTTCTAAAATTAGGATATTGTAT 110280
                                                                                                                                                                                                                                                                                                                                                                                                                                                         Db 110161 ACTCTTTTAAAGACTGTTGATCAAAAAATTTAAGTTCTTAATGAAAATAGAAGAAACTTT 110220
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Matches 120;
                                                                                                                                                                                                                 110341 AAAGTTATGTGGTACATTTTGTCTTTCTTTAATTCCAACAATCGGGGAAAATGTTCAGAA 110400
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 misc_teature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        misc_teature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                198 ACTAATTGTTATAGTTGGTTTAAGAAATCTTTATTCGTGGAGTAGAGTTAAAGGATCTTT 257
                                                                                                                                                                                438 GTATCT 443
                                                                                                                                                                                                                                          378 ATCAATACTTGACAAAICATGGATAGCTGTTCTACTAATAATAGGTCATATTGCAATGTG 437
                                                                                                                                                                                                                                                                                                                                                                                                                  258 AATCATATCCATGGGTGTATTTCTTAACTTAATAGGGGTTTTCGACGAAGTATATGGTTG 317
                                                                                                                                                                                                                                                                                                                                    GATACATTTCCTAGTCTCAGTATTGTTTTTCTTATCAATAATAGCATATTTCATAGCTAT 377
AC003991 118313 bp DN
Human BAC clone CTB-167B5
AC003991
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             57022 a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       vector_side:right"
132967. .159749
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    46605
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     /note="assembly_name:Contig25"
31515. .36252
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              /note="assembly_name:Contig36
clone_end:SP6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          /note="assembly_name:Contig34"
94311. .111262
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               51209.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   /note="assembly_name:Contig23" 22447. .27263
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      /note="assembly_name:Contig38"
36205 c 36048 g 54445 t
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               /note="assembly_name:Contig37"
159850. .185926
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     79355.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            70072
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   61863
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        55695
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              27364. .31414
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       111363. .132866
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     /note="assembly_name:Contig35"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   /note="assembly_name:Contig33"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 /note="assembly_name:Contig31"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               /note="assembly_name:Contig29"
51209. .55594
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    /note="assembly_name:Contig28"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         /note="assembly_name:Contig27"
1730. .46504
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        note="assembly_name:Contig32"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            note="assembly_name:Contig24"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      note="assembly_name:Contig30"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  'note="assembly_name:Contig26"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          8.0%;
48.8%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     .94210
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          .79254
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   .6997
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    .51108
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  .41629
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Score 44.4; DE Pred. No. 8.8; 0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            DB 71;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       126;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        2206 others
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Length 185926;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Gaps
```

0,

```
JOURNAL REFERENCE.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      REFERENCE
AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    REFERENCE
AUTHORS
TITLE
                                                                                                                                             FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 AUTHORS
TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               AUTHORS
TITLE
JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                JOURNAL
                                                                                                                          source
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1 (bases 1 to 118313)
Murray,J., Rohlfing,T. and Antoniou,B.
The sequence of H. sapiens BAC clone CTB-167B5
Unpublished
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      The sequence of this clone was established as part of a mapping and sequencing collaboration between the NHGRI Chromosome 7 Mapping Project (Eric D. Green, Director), John D. McPherson in the Department of Genetics (Washington University), and the Washington University Genome Sequencing Center. For additional information about the map position of this sequence, see http://www.nhgri.nih.gov/DIR/GTB/CHR7 or send mailto:egreen@nhgri.nih.gov
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             This sequence was finished as follows unless otherwise noted: all regions were double stranded or sequenced with an alternate chemistry; an attempt was made to resolve all sequencing problems, such as compressions and repeats; all regions were covered by sequence from more than one subclone; and the assembly was
                                                                                                                                                                                                  NEIGHBORING SEQUENCE INFORMATION:
The actual start of this clone is at base position 1 of CTB-167B5:
actual end of this clone is at base position 118313 of CTB-167B5.
                                                                                                                                                                                                                                                                                                                                           Clone CTB-167B5 is from the first release of the human BAC library CITB-978SK-B. The library contains cloned DNA from the male fibroblast cell line 978SK. See: Shizuya et al., Proc. Natl. Acad. Sci. USA 89:8794-7 (1992); U-J. Kim et al., Genomics 34:213-8 (1996). This clone is available from Research Genetics, Inc.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               clone:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Direct Submission
Submitted (03-FEB-2000)
University, 4444 Forest
4 (bases 1 to 118313)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                University, 4444 Forest Park Avenue, St. Louis, Missouri 63108, USA 3 (bases 1 to 118313)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Submitted (04-FEB-2000) Department of Genetics, University, 4444 Forest Park Avenue, St. Louis,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Waterston, R.
                                                                                                                                                                This clone
                                                                                                                                                                                                                                                                                        Selection:
                                                                                                                                                                                                                                                                                                                                                                                                                                                       SOURCE INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           MAPPING INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 confirmed by restriction digest.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        between neighboring data submissions.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Waterston, R.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Waterston, R.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Direct Submission
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Direct Submission
                                                                                                                                                                                                                                                                                                                            1996). This clone is a http://www.resgen.com).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              (bases
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Web site: http://genome.wustl.edu/gsc
Contact: sapiens@watson.wustl.edu
------ Summary Statistics
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Center project name: H_RG167B05
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Center: Washington University Genome Sequencing Center Center code: WUGSC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         E: This sequence may not represent the entire insert of this. It may be shorter because we only sequence overlapping sections once, or longer because we provide a small overlap
                                                                                                                                                                                                                                                                                                         pBeloBAC11
  /clone_lib="CITB-978SK-B"
/map="7q21"
                                          /clone="CTB-167B5"
                                                               /db_xref="taxon:9606"
/chromosome="7"
                                                                                                     ∕organism≖"Homo sapiens'
                                                                                                                                           ocation/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1 to 118313)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ---- Genome Center
                                                                                                                                                                contains STS swSS2908 (NID:g1113638
                                                                                                                          .11831
                                                                                                                                                                                                                                                                                      chloramphenicol
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Department of Genetics,
Park Avenue, St. Louis,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Washington
Missouri 63108,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Washington
Missouri 63108,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      and
                                                                                                                                                                                                                       repeat_region
                                                                                                                                                                                                                                                                                                                                                                                     repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          repeat_region
                                                           repeat_region
                                                                                                   repeat_region
                                                                                                                                         repeat_region
                                                                                                                                                                                 repeat_region
                                                                                                                                                                                                                                                                 repeat_region
                                                                                                                                                                                                                                                                                                         repeat_region
                                                                                                                                                                                                                                                                                                                                                 repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                             repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  repeat_region
                                                                                                 /rpt_fami.
20347. .20
                     /rpt_
21425
                                                           /rpt_family="Alu"
21158. .21226
                                                                                                                                                                                                                           /rpt_1
18644.
                                                                                                                                                                                                                                                                                                                                                 /rpt_
17199
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            /rpt_fa
11353.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  /rpt_family="L1" 11200. .11288
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        complement(<5050.
/gene="SRI"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       /rpt_family="Alu"
4701. .4865
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                /rpt_family="L2"
3917. .4205
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          /rpt_family="MER1_type" 686. .832
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    /rpt_family="MER1_type"
527. .626
                                                                                                                                                                                                                                                                 18465
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             /rpt_family="MER1_type?"
15947. .16238
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   QDGQIDADELQRCLTQSGIAGGYK"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      /rpt_family="L2"
1359. .1503
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     complement(join(<5050. .5119,6787. .6870,7904. .7954))
/rpt_family="Alu"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 nutlidrug-resistant
                                                                                                                                                                ,rpt
                                                                                                                                                                                                                                                                                                                                                                                                                                                    rpt
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        translation="MAYPGHPGAGGGYYPGGYGGAPGGPAFPGQTQDPLYGYFAAVAG"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         'db_xref="GI:2772536"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 /product="calcium binding protein amplified
nutlidrug~resistant cells"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  'gene≖"SRI"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                rpt_family="Alu"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     rpt_family="MER1_type"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                protein_
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       codon_start=1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               note="match to sorcin protein P30626 (PID:g267021);
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              _RG167B05.1"
                                                                                                                                                                                                                                              _fami
                                                                                                                                                                                   _family="(CA)n"
1. .19157
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               _family="L2"
                                                                                                                                                                                                                                                                                                                                                                  _family="L1"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             _family="L1"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      _family="Alu"
                                                                                                                                                                                                                                                                                                                              fami
                                                                                                                                                                                                                                                                                                                                                                                                          _fami
                                                                                                                                                          tamily="MIR"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        family="Alu"
                                        family="L1"
                                                                                                                                                                                                                                                                                      fami
                                                                                                                                                                                                                                                                                                                                                                                                                                                family-"MER1_type?"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              tamily="MIR"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             family-"MIR"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       family="MER1_type"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               family-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     family="MER1_type"
                                                                                                     .20650
                                                                                                                                                                                                                                      Lly="Ll"
                                                                                                                                                                                                                                                                                                                                                                                                                                 16913
                                                                                                                      ly="L1"
                                                                                                                                                                                                                                                                                                                                                   7400
                                                                                                                                                                                                                                                                                                                            ly≖"MaLR"
                                                                                                                                                                                                                                                                                  y="MER1_type?"
                                                                                                                                                                                                                                                                                                                                                                                                          y="L1"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             "MER1_type"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               .7954)
```

```
δõ
                                                                                                                                                                                                                                                       Db 100778 TACTGGTAGTATTAACTATAGATGATTCTGTAGTACCAAATACAGATGATTTATGTTCAC 100837
Db 100958 G 100958
                                                              Db 100898 TAGTTTAAATTAACTAAAATTTTAAACAATTTAATGCAAAATTCAAGATATAAATGG 100957
                                                                                                                                                                                                                                                                                                                    Query Match 8.0%; Score 44.2; DB 85; Length 118313; Best Local Similarity 49.0%; Pred. No. 10; Matches 118; Conservative 0; Mismatches 123; Indels 0; Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                         repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                repeat_region
                                                                                                                                                                                                                                                                                                                                                                                         repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                         repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                repeat_region
                                                                               212 TTGGTTTAAGAAAICTTTATTCGTGGAGTAGAGTTAAAGGATCTTTAATCATATCCATGG 271
                                                                                                                                             152 GCAGTGTTGCTCCAATATTCAATCTAGGTCTTGCAATTGGTGGGATACTAATTGTTATAG 211
                                272 G 272
                                                                                                                                                                                                                       92 TGTCGTCATGGTTTAATATATGGAATAATGCATTAAGCGATCTAGGACATGCTGTTAAAA 151
                                                                                                                                                                                                                                                                                                                                                                                         /rpt_family="L1"
37394. .37548
/rpt_family="MaLR"
37657. .38131*
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                21816. .21903
/rpt_family="MER81"
21910. .22079
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      /rpt_family="Alu"
30548. .30650
                                                                                                                                                                                                                                                                                                                                                                                                                                                         36503. .36633
/rpt_family="Alu"
36634. .37363
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     rpt_family="Alu"
8961. .29023
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     rpt_family="L1"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  note="match to EST AA327226 (NID:g1979532)" 6261 .26341
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               rpt_family="MER1_type"
2715. .23122
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  rpt_family="MaLR"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ote="match to EST AA327226 (NID:g1979532)"
5564. .26742
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     _family="(TGGA)n"
7. .29523
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                _family="L1"
3. .27102
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  _family="MIR"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     family="Alu"
5. .28701
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 family="L1"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              family⇒"Alu"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         family="L1"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         family-"Ll"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  family="L1"
. .26260
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 family-"Alu"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 family="L1"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        .36502
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     .26414
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    .25618
                                                                                                                                                                                                                                                                                                                         0;
```

Search completed: May 30, 2001, 23:07:52

Job time: 4726 sec

```
Minimum
Maximum
      Result
No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Database :
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Title:
Perfect score:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  OM nucleic -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Total number of hits satisfying chosen parameters:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Scoring table:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Sequence:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Run on:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Searched:
                                                                                                                                                       Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      DB
      Score
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               seq length: 0 seq length: 2000000000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               nucleic search, using sw model
                                                                                                                                                                                                                                                                                 N_Geneseq_0401:*
1: /cgnl_8/gcgdat;
2: /cgnl_8/gcgdat;
3: /cgnl_8/gcgdat;
4: /cgnl_8/gcgdat;
5: /cgnl_8/gcgdat;
6: /cgnl_8/gcgdat;
6: /cgnl_8/gcgdat;
7: /cgnl_8/gcgdat;
10: /cgnl_8/gcgdat
11: /cgnl_8/gcgdat
12: /cgnl_8/gcgdat
13: /cgnl_8/gcgdat
14: /cgnl_8/gcgdat
15: /cgnl_8/gcgdat
16: /cgnl_8/gcgdat
17: /cgnl_8/gcgdat
18: /cgnl_8/gcgdat
19: /cgnl_8/gcgdat
20: /cgnl_8/gcgdat
21: /cgnl_8/gcgdat
22: /cgnl_8/gcgdat
      Match Length
                                    Query
                                                                                                                                                                                                                                                                          | Cgn1_8/gcgdata/geneseq/geneseqn/NA198.DAT: *
| Cgn1_8/gcgdata/geneseq/geneseqn/NA199.DAT: *
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               May 30, 2001, 22:23:47; Search time 113.14 Seconds (without alignments) 2863.697 Million cell updates/sec
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            IDENTITY_NUC
Gapop 10.0 , Gapext 1.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         US-09-382-242-23
555
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             678276 seqs, 291890651 residues
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           GenCore version 4.5
Copyright (c) 1993 - 2000 Compugen Ltd
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ATGTCTTTAAACAAGCACTC.....AATCATACACTAAACGATAG 555
      DВ
      IJ
                                                                                                  SUMMARIES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1356552
Description
```

000

19 18 7 20 20

> V71738 V74335 N60392

Plasmodium falcipa
Nucleic acid seque
Upstream sequence
Upstream sequence
Staphylococcus aur
Sequence encoding
Human IL-1ra BAC c

o o

100.0 7.6 7.3

555 42.2 40.6 39.2 39.2 39.2 39.2 39.2 39.2

> 555 3567 4197 3927 3927 615 5391 5407 5423

> > A70117 A70227 A70101 X99599 V71729

T79321

DNA encoding Staph Plasmodium falcipa Plasmodium falcipa

PR XX PR XX PR XX PR XX	X P X P X P X F X D X P	RES T799 XX AC AC AC AC AC AC XX AC AC XX XX XX XX XX XX XX XX XX XX XX XX XX	
16-FEB (RECO- Callen Reid J	WO97	JULT T79: T79: 16-1 DNA Est pull diss Stal Key CDS	11111111111111111111111111111111111111
18-1 17, W	WO9730160-A1 21-AUG-1997. 11-FEB-1997;	1 79321 standard 79321; 6-FEB-1998 (f NA encoding St. sterase; thermulp; paper; li. isease resista taphylothermus ey DS	COURT
996; 96US RECOMBINANT , Kosmotka Robertson	. 9		๑๑๑๑๑๑๑๑๑๑๑๑๑๑๑๑๑๑๑๑๑๑๑๑๑๑๑๑๑๑๑๑๑๑๑ ๖๖๖๖๖๖
віо А, DE,	7wo-us0203	DNA; 5  St ent st ent hyloth hyloth in rem in rem e; fee e; fee arinus ocatio576 *tag= transl	1444 11536 11536 11536 11864 11864 1452 2854 4673 5409 910715 16177 94618 1768 1768 1778 94618 1778 94618 1789 1789 1789 1789 1789 1789 1789 17
602359. IOCATALYS , Link S , Swanson	039.	55 BP ry) ry) ermus enzymmoval; dstuf dstuf stra stra areacei	20 21 21 21 20 20 21 21 21 21 21 21 21 21 21 21 21 21 21
XSIS INC. S, Maffia AM, Murphy D; on RV, Warren PV;		marinus esterase F1-12LC e; ester; chiral compound sugar; lignocellulose; f; ss. in F1. llfiers pt= (pos: 526528, aa:As	217016 A70199 094111 078892 V72330 F22335 A70123 A70151 X20248 V215616 V25616 V
•		cheese;	Human gene express Plasmodium falcipa mML genomic DNA. Aspergillus nidula F. balustinum CP70 Arabidopsis thalia Plasmodium falcipa DNA encoding a Sta P. yoelii SSP2 ant Plasmodium falcipa Borrelia burgdorfe Methanococcus jann Pythium oligandrum SHOX gene prelimin Human SHOX (short BAC containing rep Human secreted pro Enterococcus faeca Staphylococcus aur Borrelia burgdorfe Soybean lipoxygena Staphylococcus Staphylococcus Staphylococcus Heliothis armigera Borrelia burgdorfe

1997-425035/39

```
This DNA sequence codes for thermostable esterase F1-12IC (W2306) cof Staphylothermus marinus F1, a thermophilic sulphur archaea that grows optimally at 85 deg C and pH 6.5. It can be amplified from a pBluescript vector by PCR (see T79299-300). Claimed, newly identified polynucleotides (T79321-30) encoding esterases (W23069-77, W23088) were recovered from genomic gene libraries. They can be used for recombinant production of the enzymes in host cells, and as probes to identify related sequences. The esterases are stable at high temperature and in organic solvents, making them superior for use in production of pure chiral compounds used in pharmaceutical, agricultural and other chemical industries. A method is claimed for transferring an amino group from an amino acid to an alpha-keto acid using a claimed esterase. The enzymes may also be useful as ripening starters in cheese making, in lignin removal in paper and fermentable sugar production from lignocellulosic waste, in the study of plant wall structure, plant resistance to disease and organic matter decomposition and to select plants bred for production of highly degradable animal feeds.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Query Match
Best Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Nucleic acid encoding heat stable esterase from thermophilic bacteria - which is active in organic solvents, useful in cheese or paper manufacture, and to study plant resistance to disease
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Sequence 555
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Claim 1; Page 40-41; 113pp; English.
                                                  481
                                                                                                481
                                                                                                                                                  421
                                                                                                                                                                                                     421
                                                                                                                                                                                                                                                        361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                181
                                                                                                                                                                                                                                                                                                          361
                                                                                                                                                                                                                                                                                                                                                             301
                                                                                                                                                                                                                                                                                                                                                                                                             301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TACACTAAACGATAG
                                                                     CCCGAGTTATTAGCGGTATTCTCGTTTTTACCATTCTATATAAGACAGTATTTTAAATCA
                                                                                                                                                                          GGTCATATTGCAATGTGGTATCTACACTTTGCTTCAGAGATTCCGAGAGGTGCTGCTATT
                                                                                                                                                                                                                                                                                GCATATTTCATAGCTATATCAATACTTGACAAATCATGGATAGCTGTTCTACTAATAATA
                                                                                                                                                                                                                                                                                                                                                                                  GACGAAGTATATGGTTGGATACATTTCCTAGTCTCAGTATTGTTTTTTCTTATCAATAATA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GCATTAAGCGATCTAGGACATGCTGTTAAAAGCAGTGTTGCTCCAATATTCAATCTAGGT 180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CCATTAACAATGATCGCATTAGCTATCTCTATGTCGTCATGGTTTAATATATGGAATAAT 120
                                                                                                                                             ggtcatattgcaatgtggtatctacactttgcttcagagattccgagaggtgctgctatt
                                                                                                                                                                                                                                                  gcatatttcatagctatatcaatacttgacaaatcatggatagctgttctactaataata
                                                                                                                                                                                                                                                                                                                                                        gacgaagtatatggttggatacatttcctagtctcagtattgtttttcttatcaataata
                                                                                                                                                                                                                                                                                                                                                                                                                                                        agagttaaaggatctttaatcatatccatgggtgtatttcttaacttaataggggttttc
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CTTGCAATTGGTGGGATACTAATTGTTATAGTTGGTTTAAGAAATCTTTATTCGTGGAGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     cccgagttattagcggtattctcgtttttaccattctatataagacagtattttaaatca
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     AGAGTTAAAGGATCTTTAATCATATCCATGGGTGTATTTCTTAACTTAACATAGGGGTTTTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                gcattaagcgatctaggacatgctgttaaaagcagtgttgctccaatattcaatctaggt
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ccattaacaatgatcgcattagctatctctatgtcgtcatggtttaatatatggaataat
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                555;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        BP; 161 A; 86 C;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  100.0%; Score 555; DB 18; 100.0%; Pred. No. 4.5e-129;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        99 G;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     209 T; 0 other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             0,:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Gaps
                                                                                             540
                                                                                                                                                480
                                                                                                                                                                                                  480
                                                                                                                                                                                                                                                     420
                                                                                                                                                                                                                                                                                                                                                          360
                                                                                                                                                                                                                                                                                                                                                                                                          360
                                                                                                                                                                                                                                                                                                                                                                                                                                                             300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          60
```

0

В Ş

S

Q

31 ATGATAATATTATTCTCAGCTTTTCCTTTCCCATTAACAATGATCGCATTAGCTATCTCT

Query Match Best Local Similarity

7.68;

Score 42.2; DE Pred. No. 0.17; 0; Mismatches

DB .17; 218;

Length

Indels

0;

Gaps 90

0

Matches

Conservative

0;

Вþ Š В Ş 밁 Š 밁

S

В Š В

á В ρ В Š

```
밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 RESULT
                             (I) (especially when they are rifins or secreted or membrane proteins) can aid the identification of drugs to treat or prevent P. falciparum infection, or they can be used to identify drug resistance; in P. falciparum. Sequencing of the Plasmodium chromosome 2 and the subsequent identification of proteins encoded by it will help to expand our understanding of parasite biology, a process hampered by the complexity of the parasitic lifecycle, and provide new targets for vaccine and drug development. Parasite resistance to drugs and mosquito resistance to insecticides have led to a resurgence of malaria in many parts of the world, and there is a pressing need for vaccines and new drugs. A70078 to A70287 and B18144 to B18352 represent nucleotide and protein sequences given in the present invention, but which are not specifically mentioned within the specification.
                                                                                                                                                                                                                                                            The present invention describes proteins and their fragments (I) encoded by chromosome 2 of the human malarial parasite, plasmodium falciparum. Also described are: (1) nucleotide sequences (II) encoding (I); and (2) vaccines against p. falciparum infection comprising (I) or (II). (I) and (II) are useful for the development of vaccines against p. falciparum infection. (I) and polyclonal antisera or a monoclonal antibody raised to immunogens comprising the sequences of (I), are useful in the detection of infection with p. falciparum. Furthermore, useful in the detection of infection with p. falciparum. Furthermore,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  (HOFF/) HOFFMAN (CARU/) CARUCCI I (GARD/) GARDNER I (VENT/) VENTER J
                                                                                                                                                                                                                                                                                                                                                                                                                                                         Proteins encoded by chromosome 2 of the human plasmodium falciparum, useful as antimalarial diagnosis of P.falciparum infection -
                                                                                                                                                                                                                                                                                                                                                                                                                          Disclosure; Page 470-471; 577pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Plasmodium falciparum; chromosome 2; human malaria parasite; antimalarial; malaria; protozoacide; infection; insecticide;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           07-NOV-2000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              A70117
 Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  WPI; 2000-365347/31
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             05-NOV-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Plasmodium falciparum
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Plasmodium falciparum chromosome 2 related DNA sequence SEQ ID NO:250.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Hoffman S, Carucci D,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          05-NOV-1998;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 WO200025728-A2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   N
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  HOFFMAN S.
CARUCCI D.
GARDNER M.
VENTER J C.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              standard;
   вP;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          98US-0107131
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             99WO-US26796
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              DNA;
 1641 A; 269 C;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   555
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            3567
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Gardner M,
   473
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Venter
 <u>ი</u>
   1184
   T; 0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             malarial
vaccines
   other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             parasite,
and in the
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     vaccine;
```

```
RESULT
A70227/c
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               뫄
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              맑
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Ş
       밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Вb
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       B
The present invention describes proteins and their fragments (I) encoded by chromosome 2 of the human malarial parasite, Plasmodium falciparum. Also described are: (1) nucleotide sequences (II) encoding (I); and (2) vaccines against P. falciparum infection comprising (I) or (II). and (II) are useful for the development of vaccines against P. falciparum infection. (I) and polyclonal antisera or a monoclonal antibody raised to immunogens comprising the sequences of (I), are useful in the detection of infection with P. falciparum. Furthermore,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1493
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1373
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1313
                                                                                                                                                                 Proteins encoded by chromosome 2 of the human Plasmodium falciparum, useful as antimalarial
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                A70227;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         A70227 standard; DNA; 4197
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1553 ataatgataatattaattataataatatttg 1583
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1433
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1193
                                                                                                                                                   diagnosis of P.falciparum infection
                                                                                                                                                                                                        WPI; 2000-365347/31
                                                                                                                                                                                                                                   Hoffman
                                                                                                                                                                                                                                                                                                                               05-NOV-1998;
                                                                                                                                                                                                                                                                                                                                                          05-NOV-1999;
                                                                                                                                                                                                                                                                                                                                                                                     11-MAY-2000.
                                                                                                                                                                                                                                                                                                                                                                                                                                         Plasmodium falciparum
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   antimalarial; malaria;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Plasmodium falciparum;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Plasmodium falciparum chromosome 2 related DNA sequence SEQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     07-NOV-2000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1253
                                                                                                                          Disclosure; Page 548-549;
                                                                                                                                                                                                                                                                       (HOFF/) HOFFMAN S.
(CARU/) CARUCCI D.
(GARD/) GARDNER M.
                                                                                                                                                                                                                                                                                                                                                                                                               WO200025728-A2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       391
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           331
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               271
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    211
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        151
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              91
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         AAATCATGGATAGCTGTTCTACTAATAATAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               atgataatattaatcataataatgataatattaattataataatgataatattaattata 1552
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GTCTCAGTATTGTTTTTCTTATCAATAATAGCATATTTCATAGCTATATCAATACTTGAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GGTGTATTTCTTAACTTAATAGGGGTTTTCGACGAAGTATATGGTTGGATACATTTCCTA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       GTTGGTTTAAGAAATCTTTATTCGTGGAGTAGAGTTAAAGGATCTTTAATCATATCCATG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         \verb|atgatattgatagtgataatatacaaaaggatattacaaggtggagtaatcataatgata|
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        AGCAGTGTTGCTCCAATATTCAATCTAGGTCTTGCAATTGGTGGGATACTAATTGTTATA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                tttttaaagaggataaaaataatgtctgtaaaatgaatggggcttataagaaatatgaag
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ATGTCGTCATGGTTTAATATATGGAATAATGCATTAAGCGATCTAGGACATGCTGTTAAA 150
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ataataatatgaagaaggaaaattatcttatgaaaaataaagtgatcaagggggatccca
                                                                                                                                                                                                                                   ß
                                                                                                                                                                                                                                                              VENTER J
                                                                                                                                                                                                                                   Carucci
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    (first entry)
                                                                                                                                                                                                                                                                                                                                 98US-0107131
                                                                                                                                                                                                                                                                                                                                                          99WO-US26796
                                                                                                                                                                                                                                                              G
                                                                                                                                                                                                                                 Ď
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   protozoacide;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                chromosome 2;
                                                                                                                                                                                                                                 Gardner
                                                                                                                        577pp; English
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ВP
                                                                                                                                                                                                                                   ĭ
                                                                                                                                                                                                                                 Venter
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   infection;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                human malaria parasite;
                                                                                                                                                               malarial vaccines
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   insecticide;
                                                                                                                                                                 parasite,
and in the
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ID NO:360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                vaccine;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1432
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          390
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1492
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              330
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1372
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       210
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1312
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1252
```

```
RESULT
A70101,
밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Дb
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Query Match
Best Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         (I) (especially when they are rifins or secreted or membrane proteins) can aid the identification of drugs to treat or prevent P. falciparum infection, or they can be used to identify drug resistance in P. falciparum. Sequencing of the plasmodium chromosome 2 and the subsequent identification of proteins encoded by it will help to expand our understanding of parasite biology, a process hampered by the complexity of the parasitic lifecycle, and provide new targets for vaccine and drug development. Parasite resistance to drugs and mosquito resistance to insecticides have led to a resurgence of malaria in many parts of the world, and there is a pressing need for vaccines and new drugs. A70078 to A70287 and B1B144 to B1B352 represent nucleotide and protein sequences given in the present invention, but which are not
                                                                    (HOFF/)
(CARU/)
(GARD/)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1201
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1381
                                                                                                                                                                                                                                                                    Plasmodium falciparum; antimalaria; malaria;
                                                                                                                                                                                                                                                                                                                                         07-NOV-2000 (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                   A70101 standard;
                            Hoffman
                                                                                                                           05-NOV-1998;
                                                                                                                                                       05-NOV-1999;
                                                                                                                                                                                                                                       Plasmodium falciparum
                                                                                                                                                                                                                                                                                                             Plasmodium falciparum chromosome 2 related DNA sequence SEQ
                                                                                                                                                                                                                                                                                                                                                                      A70101;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Sequence 4197 BP; 2005 A; 334 C; 525 G; 1333 T; 0 other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                specifically mentioned within the specification.
                                                      (VENT/)
                                                                                                                                                                                  11-MAY-2000
                                                                                                                                                                                                              WO200025728-A2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    125
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       365
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     245
                                                                                                                                                                                                                                                                                                                                                                                                                  6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Local Sim
hes 136;
                                                                                                                                                                                                                                                                                                                                                                                                                              4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TGGATAATTGATTAGGAGTATTTATTTGATGATTCCTATTATTTCTTCTTTTAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TTTTATGAGGTTTTAAAAAAATCGTTAATTATAATCATTCCGTTTTTTGTTCCTATAACAA 1262
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CAATTGGTGGGATACTAATTGTTATAGTTGGTTTAAGAAATCTTTATTCGTGGAGTAGAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TAACAAAATTATGAATATCCATAAAAAATATAATGCCAGAACGATTTAATATTAACATAT 1382
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TAAGCGATCTAGGACATGCTGTTAAAAGCAGTGTTGCTCCAATATTCAATCTAGGTCTTG 184
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ATTTCATAGCTATATCAATACTTGACAAATCATGGATAGCTGTTCTACTAATAAT 419
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                AAGTATATGGTTGGATACATTTCCTAGTCTCAGTATTGTTTTTCTTATCAATAATAGCAT 364
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TTAAAGGATCTTTAATCATATCCATGGGTGTATTTCTTAACTTAATAGGGGTTTTCGACG 304
                                                                    HOFFMAN S.
CARUCCI D.
GARDNER M.
                          ß
                                                     VENTER J C.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Similarity
                          Carucci
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Conservative
                                                                                                                            98US-0107131
                                                                                                                                                       99WO-US26796
                                                                                                                                                                                                                                                                                                                                                                                                     DNA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            7.3%;
46.1%;
                          'n
                                                                                                                                                                                                                                                                                                                                                                                                     3927
                                                                                                                                                                                                                                                                     protozoacide;
                                                                                                                                                                                                                                                                                  chromosome
                          Gardner
                                                                                                                                                                                                                                                                                                                                                                                                   ΒP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Score 40.6; DB Pred. No. 0.44;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Mismatches
                          z,
                                                                                                                                                                                                                                                                                 2;
                          Venter
                                                                                                                                                                                                                                                                                 human malaria parasite;
                                                                                                                                                                                                                                                                     infection;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           DВ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               159;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          21;
                                                                                                                                                                                                                                                                       insecticide;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              0,
                                                                                                                                                                                                                                                                                                               ID NO:234
                                                                                                                                                                                                                                                                    vaccine;
ds.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1147
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          244
```

0;

WPI; 2000-365347/31

```
RESULT
X99599
ID X9
XAXEX
                                                                                                                                                                                                 믕
                                                                                                                                                                                                                                  Ş
                                                                                                                                                                                                                                                                        밁
                                                                                                                                                                                                                                                                                                         Qy
                                                                                                                                                                                                                                                                                                                                                      뫄
                                                                                                                                                                                                                                                                                                                                                                                        Ş
                                                                                                                                                                                                                                                                                                                                                                                                                               Db
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      á
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             δõ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        맑
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           δÕ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 дb
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CC by chromosome 2 of the human malarial parasite, Plasmodium falciparum.

CC Also described are: (1) nucleotide sequences (II) encoding (I); and (2)

CC vaccines against P. falciparum infection comprising (I) or (II).

CC (I) and (II) are useful for the development of vaccines against

CC P. falciparum infection. (I) and polyclonal antisera or a monoclonal

CC antibody raised to immunogens comprising the sequences of (I), are

CC useful in the detection of infection with P. falciparum. Furthermore,

CC (I) (especially when they are rifins or secreted or membrane proteins)

CC can aid the identification of drugs to treat or prevent P. falciparum

CC infection, or they can be used to identify drug resistance in

CC P. falciparum. Sequencing of the Plasmodium chromosome 2 and the

CC our understanding of parasite biology, a process hampered by the

CC complexity of the parasite biology, a process hampered by the

CC complexity of the parasite biology, a provide new targets for

CC vaccine and drug development. Parasite resistance to drugs and mosquito

CC resistance to insecticides have led to a resurgence of malaria in many

CC parts of the world, and there is a pressing need for vaccines and new

CC useful sequences given in the present invention, but which are not

CC refifcally mentioned within the snecification, but which are not
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Matches 163;
                  05-OCT-1999
                                                         x99599;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Proteins encoded by chromosome 2 of the human malarial plasmodium falciparum, useful as antimalarial vaccines
                                                                                             X99599 standard; DNA; 615
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Sequence 3927 BP; 1786 A; 198 C;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Disclosure; Page 458-459; 577pp; English
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            diagnosis of P.falciparum
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 specifically mentioned within the specification.
                                                                                                                                                                                               407
                                                                                                                                                                                                                                                                          467
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 112
                                                                                                                                                                                                                                  412 CTAATAATA 420
                                                                                                                                                                                                                                                                                                                                                        527
                                                                                                                                                                                                                                                                                                                                                                                                                                   587
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          232
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               647
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   172
                                                                                                                                                                                                                                                                                                                                                                                               292
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          707
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     767
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        52 TTTTCTTTCCCATTAACAATGATCGCATTAGCTATCTCTATGTCGTCATGGTTTAATATA 111
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            present invention describes proteins and their
                                                                                                                                                                                                                                                                                                                                                                            GGGGTTTTCGACGAAGTATATGGTTGGATACATTTCCTAGTCTCAGTATTGTTTTTCTTA
                                                                                                                                                                                             ACATTTTTA 399
                                                                                                                                                                                                                                                                                                           TCAATAATAGCATATTTCATAGCTATATCAATACTTGACAAATCATGGATAGCTGTTCTA 411
                                                                                                                                                                                                                                                                                                                                                    ANATGTTCCATATGTGAATCATTTACAAAAATGTTACTATTGTTAGAATGTATTACATTA
                                                                                                                                                                                                                                                                                                                                                                                                                               AATTGAAAGAAGCTAAAATTAGTTTGATCTATTTTAAAAAATTCATCTGTAATATCATCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TCTGTATGTTTCATTAACTCTTCTTCATTTACGTTTTTCTTATTTTCAAAAGATGTGTTA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               AATCTAGGTCTTGCAATTGGTGGGATACTAATTGTTATAGTTGGTTTAAGAAATCTTTAT 231
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TGGAATAATGCATTAAGCGATCTAGGACATGCTGTTAAAAGCAGTGTTGCTCCAATATTC 171
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TCGTGGAGTAGAGTTAAAGGATCTTTAATCATATCCATGGGTGTATTTCTTAACTTAATA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TTATTATTATTATTATTATTATTACCATTTGATGGATAAATATTATAACTTGTACAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Conservative
                (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   44.2%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            intection
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Score 39.4; DE Pred. No. 0.86;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             683 G;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1260 T; 0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    DB 21;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               206;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Length 3927;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          fragments (I) encoded asmodium falciparum.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            parasite,
and in the
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Gaps
                                                                                                                                                                                                                                                                        408
                                                                                                                                                                                                                                                                                                                                                      468
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      291
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             0,
```

```
 \begin{array}{l} \mathbf{X} \times \mathbf{X} \times \mathbf{X} \times \mathbf{Y} \times \mathbf
                                                                                                              that can be used in the method of the invention by forming target; probe complex is copmplementary to a region selected from one of the 181 nucleic acid sequences (X99501-681). U urealyticum is an opportunistic pathogen of the human urogenital tract that is a significant cause of adverse pregnancy outcome, neonatal disease, and suppurative arthritis. As the infections are commonly asymptomatic, it is important to have specific and sensitive methods for detecting their presence in a patient. Also, as the pathogen has no current antibiotic directed specifically against it, it would be advantageous to isolate and detect gene sequences which are unique to it, and utilise these as a basis for diagnosis of U urealyticum infection as well as to develop new and improved drug therapies. The present invention provides such novel polynucleotide sequences (X99501-681).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            The present invention provides methods for the detection and diagnosis of Ureaplasma urealyticum infection. It provides movel genes (x99501-88) that can be used as a source of primers and probes for the detection and/or quantification of U. urealyticum in a biological sample. The probes
Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Claim 1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         WPI; 1999-469343/39
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Cassell GH,
Lefkowitz E;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         suppurative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Ureaplasma urealyticum; nucleic acid detection; infection; pathogen;
human urogenital tract; pregnancy; neonatal disease; drug therapy;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Detection of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 30-JAN-1998;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      29-JAN-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  05-AUG-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Ureaplasma urealyticum
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    (UABR-) UAB
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Nucleic acid sequence from U. urealyticum.
615 BP;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Page
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    RES FOUND
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         arthritis; ss.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Ureaplasma urealyticum
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Chen EY,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               71; 110pp; English
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      99WO-US01972
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         98US-0073189
227 A; 64 C;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Glass
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 JI,
       60
G; 264 T; 0 other
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Glass JS,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              using
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     novel
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Heiner CR;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              genes,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              probes
```

Ωy QΥ В δÃ δÃ 밁 밁 В В Qy Query Match
Best Local Similarity Matches 270 GGGTGTATTTCTTAACTTAATAGGGGTTTTCGACGAAGTATATGGTTGGATACATTTCCT 210 AGTTGGTTTAAGAAATCTTTATTCGTGGAGTAGAGTTAAAGGATCTTTAATCATATCCAT 223 166 aatatteteataatt---aatttgtgttttttaeattaaaaaaateateaaaaeeagaaag 150 AAGCAGTGTTGCTCCAATATTCAATCTAGGTCTTGCAATTGGTGGGATACTAATTGTTAT 106 taaaataattggtgtgttaaatttaatattttcatcttctaaaattgattttaataaatt 165 90 TATGTCGTCATGGTTTAATATATGGAATAATGCATTAAGCGATCTAGGACATGCTGTTAA 149 30 TATGATAATATTTATTCTCAGCTTTTCTTTCCCATTAACAATGATCGCATTAGCTATCTC 89 gattgaattaaacttattaccatgatattcaaatcaattagaaattgttcgtatttaat aattaattgtttactaatattaatgttattagtatcgaattgttctaaatccatattatt 183; Conservative 7.18; Score 39.2; D Pred. No. 0.62 0; Mismatches 0; . 62; DB 20; 218; Indels Length 615; ω Gaps 402 329 209 222 269 342 282 ۲.

```
RESULT
V71729
                 Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Ş
                                                                                                                                                    CC Carboxylate synthase (ACC) gene and incorporates a promoter sequence.

CC The invention provides a new recombinant polynucleotide that comprises a CC promoter sequence which is an inducible promoter obtainable from apple or CC a functional portion of that promoter. The promoter is most preferably CC the Apple beta Galactosidase (ABGI) promoter or the ACC synthase promoter CC and is activated in response to tissue specific agents (especially agents CC specific to ripening fruits). A host plant cell transformed with a CC replication vector comprising one of the promoters and a replication of the promoters and a replication of the promoter and be used in a method to produce transgenic apple plants. The transgenic plants can be collivated to produce apples having a modified phenotype. The invention CC example in order to control fruit ripening, or to introduce protective proteins. The invention may also be used to isolate other ripening. A CC probe comprising one of the promoters can be used to separate a CC transcription factor from fruit cells.
                                                               Query Match
Best Local
                                               Matches
                                                                                                                            Sequence 5391 BP;
                                                                                                                                                                                                                                                                                                                                                                                                                           This represents the upstream region of the 1-AminoCyclopropane-1-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       New inducible plant promoters from apple - useful to construct vectors for tissue-specific expression of transgenes
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Gittins JR,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   (UKAG-) UK MIN FISHERIES & FOOD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  31-MAY-1997;
09-APR-1997;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                03-APR-1998;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               15-OCT-1998
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              WO9845445-A1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Malus sylvestris.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        transcription
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Apple beta galactosidase; ABG1; ACC; promoter; ripening; fruit; apple; 1-AminoCyclopropane-1-Carboxylate synthase; transgenic; genome mapping
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Upstream sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       08-FEB-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    V71729 standard;
195 GATACTAATTGTTATAGTTGGTTTAAGAAATCTTTATTCGTGGAGTAGAGGTTAAAGGATC 254
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  463
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              403
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               390
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             330
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ataaacataataaccacttcctttgattgttgttacaatgccta 506
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CAAATCATGGATAGCTGTTCTACTAATAATAGGTCATATTGCAA 433
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         attatcaatggttttgtataaattagcaaaagccttgttagtaaagtgatcaatacttga
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          AGTCTCAGTATTGTTTTTCTTATCAATAATAGCATATTTCATAGCTATATCAATACTTGA 389
                                                ;86
                                               Similarity 50.0%;
98; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                        Fig 5; 52pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Hiles ER,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  97GB-0011233.
97GB-0007193.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                98WO-GB01000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    DNA;
                                                                                                                            1815
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     of the ACC synthase gene.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            SS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    5391
                                                                                                                            A; 929 C;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      James DJ;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ВP
                                                0;
                                             Score 39.2; Di
Pred. No. 1;
0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ١
                                                                                                                            855 G;
                                                                                                                            1792 T; 0 other;
                                                                              DB
                                               98;
                                                                              19;
                                               Indels
                                                                            Length
                                                                              5391;
                                               0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      mapping;
                                             Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             462
                                               0;
```

```
V71738
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           δõ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     γ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Š
밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       밁
                           This represents the upstream region of the 1-AminoCyclopropane-1-
CC Carboxylate synthase (ACC) gene and incorporates a promoter sequence.
CC The invention provides a new recombinant polynucleotide that comprises a
CC promoter sequence which is an inducible promoter obtainable from apple or
CC a functional portion of that promoter. The promoter is most preferably
CC the Apple beta Galactosidase (ABG) promoter or the ACC synthase promoter
CC and is activated in response to tissue specific agents (especially agents
CC replication vector comprising one of the polynucleotides and a
CC replication vector comprising one of the polynucleotides and a
CC replication vector comprising one of the polynucleotides and a
CC replication to produce transgenic apple plants. The transgenic plants can
CC in a method to produce transgenic apple plants. The transgenic plants can
CC be cultivated to produce apples having a modified phenotype. The
CC invention may be used to induce protein expression in specific plant
CC tissue, for example in order to control fruit ripening, or to introduce
CC protective proteins. The invention may also be used to isolate other
CC tissue, a probe comprising one of the promoter sequences can be used
CC to separate a transcription factor from fruit cells.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1621
                                                                                                                                                                                                                                                                                                                                                                                                     Disclosure;
                                                                                                                                                                                                                                                                                                                                                                                                                                       New inducible plant promoters from apple - useful to vectors for tissue-specific expression of transgenes
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Gittins JR,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  31-MAY-1997;
09-APR-1997;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          03-APR-1998;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Apple beta galactosidase; ABG1; ACC; promoter; ripening; fruit; apple; 1-AminoCyclopropane-1-Carboxylate synthase; transgenic; genome mapping
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Upstream sequence of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               08-FEB-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     V71738;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         V71738 standard; DNA; 5407
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1741 gatgtcaacatgtggc 1756
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            (UKAG-) UK MIN FISHERIES & FOOD.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                15-0CT-1998
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Malus sylvestris
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              transcription
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1561 gttaattttttttatgttgtttaatgttacttaatgttatttaatgttgtttaatattg 1620
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TATATCAATACTTGAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TTGGATACATTTCCTAGTCTCAGTATTGTTTTTCTTATCAATAATAGCATATTTCATAGC 374
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           tttaatgttgtttcatgttacttaatgtcacttaatgttgtttaatgacttaggaagtta 1680
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TTTAATCATATCCATGGGTGTATTTCTTAACCTTAATAGGGGTTTTTCGACGAAGTATATGG 314
                                                                                                                                                                                                                                                                                                                                                                                                     Fig
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Hiles
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              factor; ss.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  97GB-0011233.
97GB-0007193.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          98WO-GB01000
                                                                                                                                                                                                                                                                                                                                                                                                   6; 52pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ER,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        the ACC synthase gene
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             390
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        James DJ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ВP
                                                                                                                                                                                                                                                                                                                                                                                                                                                             construct
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              genome mapping;
```

Sequence 5407 BP; 1828 A;

930 C;

854 G;

1795 T; 0 other

```
Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      멁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Computer readable medium; vaccine; S.aureus infection; immunodetection; cellulitis; eyelid infection; food poisoning; osteomyelitis; therapy; skin infection; surgical wound infection; scalded skin syndrome;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1741
                                  Rosen CA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1681
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1621
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1561 gttaatttttttttatgttgtttaatgttacttaatgttatttaatgttgtttaatattg 1620
          WPI; 1997-374922/35
                                                                                               05-JAN-1996;
                                                                                                                      07-JAN-1997;
                                                                                                                                                                     EP786519-A2
                                                                                                                                                                                                                                                          misc_feature
                                                                                                                                                                                                                                                                                                                                 misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                           misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                              Staphylococcus
                                                                      (HUMA-) HUMAN GENOME
                                                                                                                                              30-JUL-1997
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     toxic shock syndrome; ds.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        16-MAR-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 V74335
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        V74335 standard; DNA; 5423
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 195 GATACTAATTGTTATAGTTGGTTTAAGAAATCTTTATTCGTGGAGTAGAGTTAAAGGATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            255
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   gatgtcaacatgtggc
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TATATCAATACTTGAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  tttaatgttgtttcatgttacttaatgtcacttaatgttgtttaatgacttaggaagtta 1680
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TTGGATACATTTCCTAGTCTCAGTATTGTTTTTCTTATCAATAATAGCATATTTCATAGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TTTAATCATATCCATGGGTGTATTTCTTAACTTAATAGGGGTTTTCGACGAAGTATATGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    98;
                                              Choi GH,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               aureus contig SEQ ID #24.
                                                                                               96US-0009861.
                                                                                                                      97EP-0100117
                                                                                                                                                                                                                                                                                                                                                                                                                                              aureus
                                                                                                                                                                                                                                  /*tag-
/note-
                                                                                                                                                                                                                                                         given in
4621..4680
                                                                                                                                                                                                                                                                                                                     2821..2880
/*tag= b
                                                                                                                                                                                                                                                                                                                                                                                   /note-
                                                                                                                                                                                                                                                                                                                                                                                                          Location/Qualifiers
1021..1080
                                                                                                                                                                                                                                                                                                          /note=
                                                                                                                                                                                                                                                                                                                                                                                                /*tag=
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              7.1%;
50.0%;
                                                                      SCI INC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           390
                                              Dillon
                                                                                                                                                                                               "these bases represent a line of missing text in the sequence listing in the specification. They are included to maintain the nucleotide numbering the included to maintain the nucleotide numbering are included to maintain.
                                                                                                                                                                                                                                                                  "these bases represent a line of missing text in the sequence listing in the specification. They are included to maintain the nucleotide numbering given in the specification for this DNA sequence"
                                                                                                                                                                                                                                                                                                                                          "these bases represent a line of missing text in the sequence listing in the specification. They are included to maintain the nucleotide numbering given in the specification for this DNA sequence"
                                                                                                                                                                                            given in
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ЧB
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Score 39.2;
Pred. No. 1
                                              Į,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Mismatches
                                              Fannon
                                                                                                                                                                                            specification
                                              MR,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           DB 19;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  98;
                                              Kunsch
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Length 5407;
                                                                                                                                                                                              for
                                              CA;
                                                                                                                                                                                                        nucleotide numbering
                                                                                                                                                                                            this DNA sequence"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           254
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  0
```

```
the S.aureus DNA sequences allows putative functions to be assigned so that protein encoding or regulatory regions of commercial, therapeutic or industrial importance can be obtained. Specifically, sequences which are likely to encode antigens have been identified and these polypeptides can be used in a vaccine composition against S.aureus infection. The polypeptides can also be used in a kit for the immunodetection of S.aureus in a sample. S.aureus is implicated in numerous human diseases, including cellulitis, eyelid infections, food poisoning, osteomyelitis, skin and surgical wound infections, scalded skin syndrome, toxic shock syndrome, etc. Organisms transformed with the DNA sequences can be used for recombinant production of the polypeptides. The new DNA sequences (and their fragments) are useful as primers or probes for isolating homologues of any of the S.aureus DNA sequences contained on the
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        medium,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Polynucleotide(s) and proteins derived from Staphylococcus aureus stored on computer readable medium and used in the production of anti-S.aureus vaccines
                                                                                                                                                                                                                                                                                                                                                                                                                                              memory (RAM),
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Claim 1; Page 293-296; 3271pp; English
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            sequence represents one of 5191 Staphylococcus aureus DNA sequences
                                                                                                                                                                                                                                                                                                                                                                                                                                           invention. The DNA sequences are recorded on a computer readable preferably selected from a floppy or hard disk, random access (RAM), read-only memory (ROM) or CD-ROM. Homology searches using
                                                      readable medium.
```

```
₽
                                                                         Q
밁
                       QΥ
                                                                                                      В
                                                                                                                            QY
                                                                                                                                                                      Query Match
Best Local
                                                                                                                                                          Matches
1414
                                                    1354
                                                                                                   1294 tattaatgcagcaattacaccaattactattgttattggaccgcctaaaataccaaacac 1353
                                                                                                                   263 TATCCATGGGTGTATTTCTTAACTTAATAGGGGTTTTCGACGAAGTATATGGTTGGATAC 322
                                                                                                                                                                     Local
tataactgatataatttttaatggtccttttaataacatg
                                                 agttactagtcctgtgatagcatttctaattaatccaatcttaccgaataacaattggaa 1413
                                                                 ATTTCCTAGTCTCAGTATTGTTTTCTTATCAATAATAGCATATTTCATAGCTATATCAA 382
                        TACTTGACAAATCATGGATAGCTGTTCTACTAATAATAGG
                                                                                                                                                          84; Conser
                                                                                                                                                          Conservative
                                                                                                                                                                     6.9%;
                                                                                                                                                          0;
                                                                                                                                                                      Score 38.4;
Pred. No. 1
                                                                                                                                                          Mismatches
                                                                                                                                                                     .
6
                                                                                                                                                                                    В
                                                                                                                                                                                   18;
                                                                                                                                                          76;
                        422
                                                                                                                                                                                 Length 5423;
                                                                                                                                                          0;
                                                                                                                                                        Gaps
                                                                                                                                                          0
```

Sequence

5423

BP; 1563 A; 1053 C; 760

G; 1859 T; 188 other,

```
H
25-JUL-1985;
11-APR-1985;
11-APR-1985;
                                                                                                                      Sequence
Ag319 of
                                                                        CDS
                           11-APR-1986;
                                                                                            Plasmodium
                                                                                                        Malaria vaccine;
                                                                                                                                          27-JUN-1991
                                                                                                                                                       N60392;
                                       23-OCT-1986
                                                                                                                                                                    N60392 standard; DNA; 1612
                                                                                                                                                                                 9
                                                                                                                      encoding the Asparagine-Rich Protein (ARP) Plasmodium falciparum.
                                                                                           falciparum
                                                                                                                                         (first entry)
85AU-0001640.
85AU-0000108.
85AU-0001008.
                           86WO-AU00092
                                                                       Location/Qualifiers
2..1612
                                                                                                         SS.
                                                                  /*tag=
```

```
RESULT 10
X02997/c
ID X02997
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  DЬ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Вb
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           밁
PF XXX
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            PR XXX PR XX PR XXX PR XX PR XXX PR XX PR XXX PR XX
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Matches 148;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Query Match
Best Local Similarity
                                                                                                                                                                                                            Tango-77; human; IL-Ira; cytokine superfamily; inflammation; inhibition; interleukin-1 receptor; IL-IR; regulation; astma; rheumatoid arthritis; chronic myelogenous leukemia; proviasis; inflammatory bowel disease; growth factors; treatment; IL-1 receptor complex; BAC; ss.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Kemp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            X02997 standard; DNA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Sequence 1612 BP; 831 A; 148 C; 178 G; 455 T; 0 other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   The antigens of the invention are prod. using recombinant DNA techniques. They may be used in vaccine compsns. to stimulate immune response against P.falciparum, the cause of human malar
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Claim 6; Fig 8; 52pp; English.
03-AUG-1998;
                                                  11-FEB-1999
                                                                                                                                                                                                                                                                                                                                                  Human IL-1ra BAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                WPI; 1986-291646/44.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        (KEMP/)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         11-APR-1986;
                                                                                                    WO9906426-A1
                                                                                                                                                                                                                                                                                                                                                                                                     22-JUN-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            New DNA molecules encoding Plasmodium falciparum antigens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            804
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              924
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   626
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     404
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     746
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 224
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    864
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         164
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   104
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CAATATTCAATCTAGGTCTTGCAATTGGTGGGATACTAATTGTTATAGTTGGTTTAAGAA 223
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TTAATATATGGAATAATGCATTAAGCGATCTAGGACATGCTGTTAAAAGCAGTGTTGCTC 163
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ACTTAATAGGGGTTTTCGACGAAGTATATGGTTGGATACATTTCCTAGTCTCAGTATTGT
                                                                                                                                                         sapiens.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CCATATTATTATT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CTGTTCTACTAAT 416
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TTTTCTTATCAATAATAGCATATTTCATAGCTATATCAATACTTGACAAATCATGGATAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TATTATTGTTGTTGAAGGTTTCTATTTGAAAAGACACCATTATTATTATTATTAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ATCTTTATTCGTGGAGTAGAGTTAAAGGATCTTTAATCATATCCATGGGTGTATTTCTTA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ATATTATTATTATTCATGTTATGGTTCATATTATTATTCATATTATTGTTCATATTATTA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TTATTATAATTCATCATACTCATATTTATATTGTTCATGTTATTGTTCATGTTATGGTTC 865
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TATTATTAAAATTTTAAATTATTCTTGTTCATATAATTCGTGTAAAATTTATTATAAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TTCATACT - - ATTTTTTCTATTTTGATAATTATAATTCATTTATTCATATTATTAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      the SHARP ARP and MESA antigens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ) HALL W
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       P60452.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Anders R,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Conservative
                                                                                                                                                                                                                                                                                                                                                                                               (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        & E INST MED
98WO-US16102
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         86AU-0056037
                                                                                                                                                                                                                                                                                                                                               contiguous DNA sequence 42.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   614
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Brown
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            6.98;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               8855
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Ģ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ₽P
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Score
Pred.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Coppel RL;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Mismatches 163; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            38.2;
No. 1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     7;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Length 1612;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         nulate an
malaria.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             403
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    343
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               283
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 805
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       627
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         747
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ۳.
```

```
XZ2304/c
ID X223
XX
AC X223
AC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    δõ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        QУ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            δõ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        RESULT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Query Match
Best Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   X02956-X03048 and X22301-X22304 are overlapping BAC genomic sequences containing alternatively spliced forms of human II-Ira. Such fragments are used in the method of the invention which describes the isolation of a novel human TANGO-77 encoding nucleic acid and protein. Tango-77 is a member of the cytokine superfamily that is expected to inhibit inflammation by binding to the interleukin-1 receptor (II-IR). It may also bind to a new receptor so could regulate other cellular processes associated with acute or chronic inflammation, e.g. asthma, chronic myelogenous leukaemia, rheumatoid arthritis, psoriasis and inflammatory bowel disease. It may also induce or suppress interleukins, cytokines an growth factors. Modulators of this protein are used to treat or prevent conditions associated with abnormal levels of inflammation, or activity of II-1 or its receptor complex.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  6285
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    6405
                                                                                                                                                                                                                                                                                                        Tango-77; human; IL-1ra; cytokine superfamily; inflammation; i interleukin-1 receptor; IL-1R; regulation; astma; rheumatoid chronic myelogenous leukemia; psoriasis; inflammatory bowel d growth factors; treatment; IL-1 receptor complex; BAC; ss.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               02-JUL-1998;
04-AUG-1997;
   02-JUL-1998;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Human IL-1ra BAC contiguous DNA sequence 97.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           X22304 standard; DNA; 28866
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Sequence 8855 BP; 2456 A; 2042 C; 1843 G; 2507 T; 7 other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             New isolated nucleic acid encoding the new human cytokine Tango-77 used to inhibit inflammation and to screen for specific modulators
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           WPI; 1999-153692/13
                                                                03-AUG-1998;
                                                                                                                                                                                       WO9906426-A1
                                                                                                                                                                                                                                                 Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   22-JUN-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Example 5; Figure 3; 226pp; English.
                                                                                                                          11-FEB-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  (MILL-) MILLENNIUM BIOTHERAPEUTICS INC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               354
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       294
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        234 GTGGAGTAGAGTTAAAGGATCTTTAATCATATCCATGGGTGTATTTCTTAACTTAATAGG 293
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        11
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CTCAATATGATATCTCAAACATCGTTCCAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            AATAATAGCATATTTCATAGCTATATCAAT 383
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    GGTTTTCGACGAAGTATATGGTTGGATACATTTCCTAGTCTCAGTATTGTTTTTCTTATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GTGGTCTCATCCTCTAGCCTTTCTTCACATACGCATTTATATAACATACAAATATAGGAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TGTGTCTGACAAATTATTTTGTAAGATACATTTCCTACTTAATGTATCTTGCCTTTTCTA 6286
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ;08
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            98US-0091650.
97US-0054646.
   98US-0091650
                                                                98WO-US16102
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        53.3%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ВP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Score 38;
Pred. No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  6256
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  DB 20; Length 8855;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     70;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        0.
                                                                                                                                                                                                                                                                                                                                            disease;
                                                                                                                                                                                                                                                                                                                                                                         inhibition;
d arthritis;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    353
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 6346
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         a of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       and
```

0;

```
RESULT 12
217016/c
ID 217016 standard; cDNA; 1444
   밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                        Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            á
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Query Match
Best Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           x02956-x03048 and x22301-x22304 are overlapping BAC genomic sequences containing alternatively spliced forms of human II-Ira. Such fragments are used in the method of the invention which describes the isolation of a novel human TANGO-77 encoding nucleic acid and protein. Tango-77 is a member of the cytokine superfamily that is expected to inhibit inflammation by binding to the interleukin-1 receptor (II-IR). It may also bind to a new receptor so could regulate other cellular processes associated with acute or chronic inflammation, e.g. asthma, chronic myelogenous leukaemia, rheumatoid arthritis, psoriasis and inflammatory bowel disease. It may also induce or suppress interleukins, cytokines and growth factors. Modulators of this protein are used to treat or prevent conditions associated with abnormal levels of inflammation, or activity of IL-1 or its receptor complex.
 28-JAN-1998;
24-FEB-1998;
31-MAR-1998;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    3054
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           2994
                                             03-APR-1998;
                                                                                                         05-AUG-1999.
                                                                                                                                                                                                genetic analysis;
                                                                                                                                                                                                                                                           Human gene expression product cDNA sequence SEQ ID NO:4486.
                                                                                                                                                                                                                                                                                         12-OCT-1999
                                                                                                                                                                                                                                                                                                                       Z17016;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             New isolated nucleic acid encoding the new used to inhibit inflammation and to screen
                                                                           28-JAN-1999;
                                                                                                                                      W09938972-A2
                                                                                                                                                                  Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                             2934 CTCAATATGATATCTCAAACATCGTTCCAT 2905
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Sequence 28866 BP; 8044 A; 6348 C;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Example
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   04-AUG-1997;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             234 GTGGAGTAGAGTTAAAGGATCTTTAATCATATCCATGGGTGTATTTCTTAACTTAATAGG 293
                                                                                                                                                                                                                                                                                                                                                                                                                                               AATAATAGCATATTTCATAGCTATATCAAT 383
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TGTGTCTGACAAATTATTTTGTAAGATACATTTCCTACTTAATGTATCTTGCCTTTTCTA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    GGTTTTCGACGAAGTATATGGTTGGATACATTTCCTAGTCTCAGTATTGTTTTTCTTATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  GTGGTCTCATCCTCTAGCCTTTCTTCACATACGCATTTATATAACATACAAATATAGGAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     MILLENNIUM BIOTHERAPEUTICS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 5; Figure 4; 226pp; English
                                                                                                                                                                                                              mapping;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Conservative
                                                                                                                                                                                                                             gene expression product; diagnosis; therapy;
                                                                                                                                                                                                                                                                                       (first entry)
98US-0080666.
98US-0072910.
98US-0075954.
98US-0080114.
                                                                           99WO-US01619
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   97US-0054646
                                                                                                                                                                                               colorectal cancer; breast cancer; lung cancer; ss
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           6.8%;
53.3%;
                                                                                                                                                                                                              typing; profiling;
                                                                                                                                                                                                                                                                                                                                                     ВP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Score 38; DB : Pred. No. 3.1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    6742 G;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        DB 20;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     7729
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             human cytokine Tango-77 for specific modulators
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             70;
                                                                                                                                                                                                                forensic;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Length 28866;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ₽,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    3 other;
                                                                                                                                                                                                                cancer;
                                                                                                                                                                                                                             probe;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  2995
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           0
```

Sequence 1444 BP; 534 A; 157

C;

95 G;

209

T; 449

```
The present invention describes a library of human polynucleotides CC comprising the sequences given in z1253 to z17779. Also described is a CC method of detecting differentially expressed genes correlated with the CC cancerous state of a mammalian cell, comprising detecting at least one CC differentially expressed gene product in a test sample from a cell course could be used to being cancerous, where the gene product is encoded by one CC of the 5248 polynucleotide sequences given in z12532 to z1779. The CC polynucleotides can be used as a source of primers and probes, which can be used for a variety of purpose, e.g. detection of expression levels, CC mapping, tissue typing or profiling, forensics, genetic analysis and CC detection of polymorphisms. Polypeptides encoded by the polynucleotides CC can be used for raising antibodies for experimental, diagnostic and CC therapeutic purposes. The polynucleotides may also be used to construct CC arrays for diagnostics (which may be used to determine function of an could protein); and to detect differences in expression levels between two cells (e.g. to identify abnormal or diseased tissue in a human, to CC identify a genetic predisposition or susceptibility to a disease such as CC cancer). The polynucleotides of the invention are especially used in the CC diagnosis, prognosis and management of colorectal cancer, breast cancer, CC centife analogues and antagnists.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Jones WL, Kassam A, Ke
Lamson G, Leshkowitz D,
Stache-Crain B, Sudduth
                                    peptide analogues and antagonists.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      differentially expressed
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        WPI; 1999-494092/41.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Crkvenjakov R,
Escobedo J, Ga
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     03-APR-1998;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      HYSEQ INC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Page 2125-2126; 2479pp; English
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    genes and their expression products which lly expressed in different cell types
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Garcia PD,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Dickson M, Dim., PD, Garcia V,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       98US-0080515.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Sudduth-Klinger J,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Kennedy GC, Kita D, Labat
D, Pot D, Randazzo F, Re
uth-Klinger J, Williams LT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Drmanac R, Drman
arcia V, Giese K,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Drmanac
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Labat I;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Innis
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Reinhard
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               s
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           MA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ç,
```

```
밁
                                                                                                Ş
                                                                                                                                   В
                                                                                                                                                                   Ş
                            δÃ
                                                                                                                                                                                                       В
                                                                                                                                                                                                                                     δÃ
                                                                                                                                                                                                                                                                                         Query Match
Best Local
                                                                                                                                                                                                                                                                         Matches
                                383
                                                                                                                                                                                                                                                                         Local Similarity
es 81; Conserv
TTNTNGNCTNTNGATGNTTGGCNNT 567
                                TACTTGACAAATCATGGATAGCTGT 407
                                                                                                                                                                     TATCCATGGGTGTATTTCTTAACTTAATAGGGGTTTTCGACGAAGTATATGGTTGGATAC
                                                                                                                                                                                                                                     TTGTTATAGTTGGTTTAAGAAATCTTTATTCGTGGAGTAGAGTTAAAGGATCTTTAATCA 262
                                                                  ANAGCNNGTNNTTAATNTCNTTTGNNANATAANTAATNGNTGNTTANGTTNCGATTGTNN
                                                                                                                                    CTNTGATNTGTGTNTANATNNATTANATANTATTNGNNTTNAGANTATGTAGTTTTANAT
                                                                                                ATTTCCTAGTCTCAGTATTGTTTTTCTTATCAATAATAGCATATTTCATAGCTATATCAA 382
                                                                                                                                                                                                       TTATCTTTTGTGNAGTTAGATATNTTANTAGTCNNAGANGTTTNTTANCTNNTTTTNCTN 712
                                                                                                                                                                                                                                                                           Conservative
                                                                                                                                                                                                                                                                                        39.5%;
                                                                                                                                                                                                                                                                         0;
                                                                                                                                                                                                                                                                                        Score 37.8;
Pred. No. 1
                                                                                                                                                                                                                                                                         Mismatches 124;
                                                                                                                                                                                                                                                                                                          DB 20;
                                                                                                                                                                                                                                                                         Indels
                                                                                                                                                                                                                                                                                                          Length 1444;
                                                                                                                                                                                                                                                                        0
                                                                                                                                                                                                                                                                        Gaps
                                                                                                                                                                     322
                                                                                                                                                                                                                                                                        0,
```

RESULT 13
A70199/C
ID A70199
XX
AC A70199
XX
AC A70199
XX
DT 07-NOV
XX
DE Plasmo

Plasmodium 07-NOV-2000

falciparum chromosome

2 related DNA sequence

SEQ

IJ

NO:332

(first entry)

A70199 standard; DNA; 6042

Q94111 standard; DNA; 1536 BP.

```
The present invention describes proteins and their fragments (I) encoded CD by chromosome 2 of the human malarial parasite, Plasmodium falciparum. Also described are: (1) nucleotide sequences (II) encoding (I); and (2) cC vaccines against P. falciparum infection comprising (I) or (II). CC (I) and (II) are useful for the development of vaccines against CC (I) and polyclonal antisera or a monoclonal cC entibody raised to immunogens comprising the sequences of (I), are consetul in the detection of infection with P. falciparum. Furthermore, CC (I) (especially when they are rifins or secreted or membrane proteins) cC can aid the identification of drugs to treat or prevent P. falciparum CC P. falciparum. Sequencing of the Plasmodium chromosome 2 and the CC subsequent identification of proteins encoded by it will help to expand cC ur understanding of parasite biology, a process hampered by the CC complexity of the parasitic lifecycle, and provide new targets for complexity of the parasitic lifecycle, and provide new targets for cascine and drug development. Parasite resistance to drugs and mosquito cresistance to insecticides have led to a resurgence of malaria in many CC parts of the world, and there is a pressing need for vaccines and new CC drugs. A70078 to A70287 and B18144 to B18152 represent nucleotide and CC specifically mentioned within the specification, but which are not target consistence to insecticides have led to a resurgence of malaria in many CC specifically mentioned within the specification.
                                                                                                                                                                                                                                                                                                     Query Match
Best Local S
Matches 85
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Proteins encoded by chromosome 2 of the human malarial parasite, Plasmodium falciparum, useful as antimalarial vaccines and in the diagnosis of P.falciparum infection -
  2255
                                                                                                                                                                                                      2375
                                                                                                                                                                                                                                                                                                                                                                                                                                   Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Disclosure; Page 526-528; 577pp;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       WPI;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Hof fman
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             (CARU/)
(GARD/)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    05-NOV-1998;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      05-NOV-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        WO200025728-A2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Plasmodium falciparum
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Plasmodium falciparum; antimalaria; malaria;
                                                                                                                                                                                                                                                     19
                                                                                                                                                   79
                                                                                                                                                                                                                                TCTTGGATGGATATGATAATATTTATTCTCAGCTTTTCTTTTCCCATTAACAATGATCGCA 78
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       2000-365347/31
TGTTCATTTATTTTTATATCTACTATTTTATTTATTTTT
                                               CATGCTGTTAAAAGCAGTGTTGCTCCAATATTCAATCTAGGTCT
                                                                                                                              TTAGCTATCTCTATGTCGTCATGGTTTAATATATGGAATAATGCATTAAGCGATCTAGGA 138
                                                                                                                                                                                                   TCTAACATGGAAAAGATATTATATGATTGGATTTTTTCTTTTGTATTATAATATTTAAA
                                                                                                 ) HOFFMAN S.
) CARUCCI D.
) GARDNER M.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ß
                                                                                                                                                                                                                                                                                                                            Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      VENTER J C
                                                                                                                                                                                                                                                                                                                                                                                                                                   6042
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Carucci
                                                                                                                                                                                                                                                                                                       Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                   ₿₽;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    98US-0107131
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      99WO-US26796
                                                                                                                                                                                                                                                                                                                                                                                                                                 2818 A;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Á
                                                                                                                                                                                                                                                                                                                            6.8%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          chromosome 2;
protozoacide;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Gardner M,
                                                                                                                                                                                                                                                                                                                                                                                                                                   589
                                                                                                                                                                                                                                                                                                     0;
                                                                                                                                                                                                                                                                                                                          Score
Pred.
                                                                                                                                                                                                                                                                                                                                                                                                                                 ç;
                                                                                                                                                                                                                                                                                                       Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                   627
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                English
                                                                                                                                                                                                                                                                                                                            37.6;
No. 2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Venter
                                                                                                                                                                                                                                                                                                                                                                                                                              G;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          human malaria parasite;
infection; insecticide;
                                                                                                                                                                                                                                                                                                                                                                                                                                 2008
                                                                                                                                                                                                                                                                                                                                                    ВВ
                                                                                                                                                                                                                                                                                                                                                                                                                                 Τ,
                                                                                                                                                                                                                                                                                                  79;
                                                                                                                                                                                                                                                                                                                                                                                                                                 0
                                                  182
                                                                                                                                                                                                                                                                                                                                                    Length
                                                                                                                                                                                                                                                                                                     Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                   other;
                                                                                                                                                                                                                                                                                                                                                    6042;
                                                                                                                                                                                                                                                                                                  0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          vaccine;
ds.
                                                                                                                                                                                                                                                                                                  Gaps
                                                                                                 2256
                                                                                                                                                                                                   2316
                                                                                                                                                                                                                                                                                                  0;
```

```
밁
               В
                   ρy
   Ş
           Ş
밁
```

RESULT 14 Q94111/c

is a megakaryocytopoietic cytokine

receptor

which may

```
02-DEC-1994;
03-JAN-1994;
21-JAN-1994;
21-FEB-1994;
15-FEB-1994;
04-APR-1994;
25-MAY-1994;
       (TPO), also known as mpl ligand (mML). This sequence was isolated from a mouse liver cDNA library by screening with a probe comprising the entire human mpl ligand coding region. The first isolated cDNA encoded a protein of 331 amino acids. When the deduced amino acid sequence of the murine and human ML proteins were aligned, the mouse sequence appeared to have a tetrapeptide deletion between human residues 111-114 which corresponds to the 12 bp deletion at position 618 seen in both human and pig cDNA's (see also Q94109). Additional clones were also examined and one clone was isolated which contained the "missing" tetrapeptide. This sequence is thought to be the full length mML. A further clone was isolated which showed a 116 bp deletion corresponding to hML3 and which was designated mML3 (see also R76166). mML binds to
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             GB2285446-A
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             mutation
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      mutation
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              mat_peptide
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        sig_peptide
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Mus musculus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Human; thrombopoietin; TPO; mpl ligand; hML; fragment pol; megakaryocytopoietic cytokine receptor; thrombopoietic sic EPO-domain fragment; erythropoietin; hEPO; haematopoietic
                                                                                                                                                                                                Example 12; Fig 17; 192pp; English.
                                                                                                                                                                                                                         Thrombopoletin polypeptide, ligand for mpl cytokine receptor useful for treating thrombocytopenia and related diseases
                                                                                                                                                                                                                                                                                                          Eaton
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         21-DEC-1994;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  inflammatory thrombocytosis; iron deficiency; EPO; platelet;
red blood cell; progenitor; hML-2; ss.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            megakaryocyte;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   12-JUL-1995
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       26-FEB-1996 (first entry)
                                                                                                                                                                                                                                                                                                                                     (GETH ) GENENTECH INC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              genomic
                                                                                                                                                                      sequence represents a
                                                                                                                                                                                                                                                                   1995-234018/31
DB; R76168.
                                                                                                                                                                                                                                                                                                          DL,
                                                                                                                                                                                                                                                                                                          de Sauvage
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              DNA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           thrombocytopenia; myeloproliferative disease;
                                                                                                                                                                                                                                                                                                                                                              94US-0249376
94US-0348657
                                                                                                                                                                                                                                                                                                                                                                                                                               94US-0348658
94US-0176553
                                                                                                                                                                                                                                                                                                                                                                                         94US-0223263
                                                                                                                                                                                                                                                                                                                                                                                                       94US-0196689
                                                                                                                                                                                                                                                                                                                                                                                                                  94US-0185607
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         94GB-0025831
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                /*tag= b
201.1205
/*tag= c
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        /product=
138..200
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             616..731
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   531..542
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    /note= "Position of 116 bp deletion in mML3,
    frame shift in 3' end of gene"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        /*tag= d
/note= "Position
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    /*tag=
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ∄M.L
                                                                                                                                                                        genomic clone encoding murine thrombopoietin
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           12
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        đđ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          mutation
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ű
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           mML2"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  polypeptide;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   causes
```

DB 15;

Length 1864;

0

```
RESULT 15
Q78892/c
ID Q78892 standard; DNA; 1864 BP.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        á
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Soxo
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Query Match
Best Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Matches
                                                            recombinant protein expression and secretion from a filamentous fungus host. The sequence increases the transformation efficiency of the vector. This illustrates the main claims of the patent, which provide a vector containing (i) DNA encoding a heterologous polypeptide (chymosin, prochymosin, preprochymosin, Aspergillus niger glucoamylase, Humicola grisea glucoamylase or M. miehei carboxyl protease) and (ii) a secretory signal peptide, and a filamentous fungus (Aspergillus, Trichoderma, Neurospora, Podespora, Endothia, Mucor Cochiochlus or Poviciasia secretality, Podespora, Endothia, Mucor Cochiochlus or Poviciasia secretality.
                                                                                                                                                                                                                                                      Vectors and DNA for expressing polypeptide(s) in filamentous fungi - include secretory signal sequences that are native or foreign to heterologous polypeptide(s), such as chymosin or glucoamylase.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1416
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1476
                                                    Podospora,
                                                                                                                                                                                  The sequence represents the A. nidulans ANS-1 sequence which is included in the construction of transformation vectors for
                                                                                                                                                                                                                            Disclosure; Fig 13A-13B; 50pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                      29-AUG-1985;
07-JUL-1986;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Aspergillus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     078892;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Sequence 1536 BP;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               transduce a thrombopoietic signal.
                         recombinant protein
                                                                                                                                                                                                                                                                                                                  WPI; 1994-359750/45
                                                                                                                                                                                                                                                                                                                                                                          (GEMV ) GENENCOR INT INC.
                                                                                                                                                                                                                                                                                                                                                                                                                                                  27-AUG-1986;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              23-NOV-1994.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         EP625577-A1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Aspergillus nidulans
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Vector; transformation; protein secretion; ds
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        17-DEC-1995
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           333
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  393
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               273 TGTATTTCTTAACTTAATAGGGGGTTTTCGACGAAGTATATGGTTGGATACATTTCCTAGT 332
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CTCAGTATTGTTTTCTTATCAATAATAGCATATTTCATAGCTATATCAATACTTGACAA 392
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    AAGATCGCTAGCTGCTCTGATGAATATTGCTGATA 1382
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ATCATGGATAGCTGTTCTACTAATAATAGGTCATA 427
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TTTTTTTTTTTTTTTTTTTTTTTAGTGATTTTCAAATTTATACCGAAAATAGACCA 1417
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    81;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Similarity
                                     Endothia, Mucor, Cochiobolus or Pyriclaria, especially A. A. awamori or T. reesei) transformed with the vector for
                                                                                                                                                                                                                                                                                                                                             Cullen D,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          nidulans ANS-1 partial sequence.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                     85US-0771374
86US-0882224
                                                                                                                                                                                                                                                                                                                                                                                                                                                86EP-0201751
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    413
                         (enzyme)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         6.6%;
52.3%;
                                                                                                                                                                                                                                                                                                                                             Gray
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Α,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   468 C;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Score 36.6; D
Pred. No. 3.4;
0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             0
                         production
                                                                                                                                                                                                                                                                                                                                            Hayenga KJ,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    328
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    <u>ი</u>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    327 T;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          DB
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            74;
                                                                                                                                                                                                                                                                                                                                               Lawlis
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         16;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    0 other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1536;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            0;
```

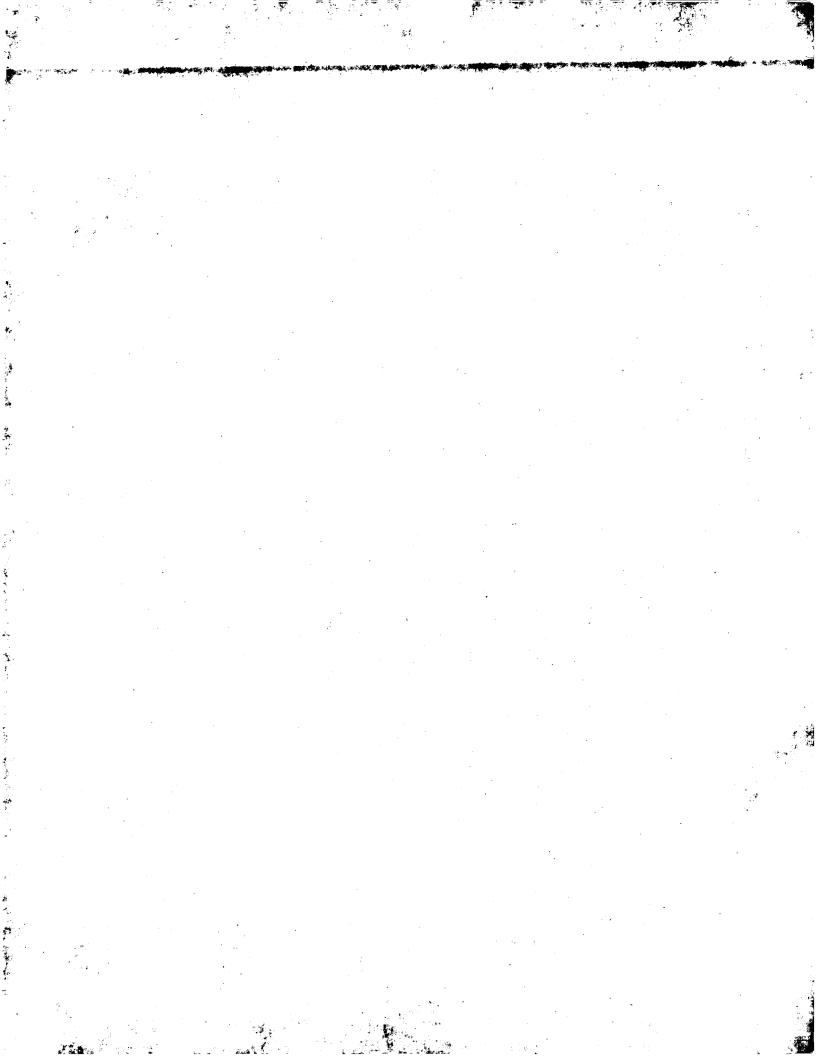
Sequence 1864 BP; 819 A;

193 C;

120 G; 732 T; 0 other;

```
Š
                                                   В
                                                                             Qy
                                                                                                        В
                                                                                                                                Qγ
                                                                                                                                                              B
                                                                                                                                                                                      Q
                                                                                                                                                                                                                   밁
                                                                                                                                                                                                                                            δÃ
                                                                                                                                                                                                                                                                         Вþ
                                                                                                                                                                                                                                                                                                Qy
                                                                                                                                                                                                                                                                                                                            Query Match
Best Local Similarity
Matches 144; Conserv
                                                                                                                                                                                                                                                                         354
                                                                                                         174
                                                                                                                                    281
                                                                                                                                                               234
                                                                                                                                                                                                                                                                                                   101
                                                                                                                                                                                                                 TGTTTTTCTTATCAATAATAGCATATTTCATAGCTATATCAATACTTGACAAATCATGGA 400
                                                                                                                                                                              GAAATCTTTATTCGTGGAGTAGAGTTAAAGGATCTTTAATCATATCCATGGGTGTATTTC
                        TAGCTGTTCTACTAATAATAGGT
                                                                                                                                                              CTCCAATATTCAATCTAGGTCTTGCAATTGGTGGGATACTAATTGTTATAGTTGGTTTAA 220
                                                                                                                                                                                                                                                                        GTTTAAAAAAGTAATTAACTATTTATATATTTAAAATATATTCTGAAAGTTATTTTTT
                                                                                                                                                                                                                                                                                                 GGTTTAATATATGGAATAATGCATTAAGCGATCTAGGACATGCTGTTAAAAAGCAGTGTTG 160
TATTTAGTAACTTAGTAAGAGTT
                                                 TTTTTTAATAATAATATTTAAGGTATAGTAATTAGTATAGAATTATAAATTTTTATTTA 115
                                                                                                                                 TTAACTTAATAGGGGTTTTCGACGAAGTATATGGTTGGATACATTTCCTAGTCTCAGTAT
                                                                                                                                                                                                                                                                                                                              Conservative
                                                                                                                                                                                                                                                                                                                                         6.6%;
                                                                                                                                                                                                                                                                                                                           Score 36.6; DE Pred. No. 3.6; O; Mismatches
                                                                                                                                                                                                                                                                                                                              0;
                        423
                                                                                                                                                                                                                                                                                                                                         .
6
                                                                                                                                                                                                                                                                                                                              179;
                                                                                                                                                                                                                                                                                                                            0
                                                                                                                                                                                                                                                                                                                           Gaps
                                                   55
                                                                                                                                                                                                                 235
                                                                                                                                                                                                                                                                        295
```

Search completed: May 30, 2001, 23:32:40 Job time: 4133 sec



Compugen Ltd

Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence

95, Appl 1, Appli 25, Appli 25, Appli 25, Appl 25, Appl 25, Appl 25, Appli 1, Appli

Sequence

Sequence Sequence Sequence Sequence Sequence

```
Minimum I
Maximum I
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Database
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Total number of hits satisfying chosen parameters:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Scoring table:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Sequence:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Title:
Perfect score:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         OM nucleic - nucleic search, using sw model
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Result
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Post-processing:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Searched:
                                                                                                                                                                                                                                                      a
     0 0 0 0 0 0 0 0
                                                                                                                                                                                                                                                                                                                                                                                                           00
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ŏ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          on:
     Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Score
   seq length: 0
seq length: 2000000000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Issued_Patents_NA:*
1: /cgnl_7/ptodata/l,
2: //gnl_7/ptodata/l,
3: /cgnl_7/ptodata/l,
4: /cgnl_7/ptodata/l,
5: //gnl_7/ptodata/l,
6: /cgnl_7/ptodata/l,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Query
Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  302621 seqs, 87301344 residues
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   IDENTITY_NUC
Gapop 10.0 , Gapext 1.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         US-09-382-242-23
555
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          мау 30,
       GenCore version 4.5
Copyright (c) 1993 - 2000 Comp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ATGTCTTTAAACAAGCACTC.....AATCATACACTAAACGATAG 555
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          /cgn1_7/ptodata/1/ina/5A_COMB.seq:*
/cgn1_7/ptodata/1/ina/5B_COMB.seq:*
/cgn1_7/ptodata/1/ina/5B_COMB.seq:*
/cgn1_7/ptodata/1/ina/6B_COMB.seq:*
/cgn1_7/ptodata/1/ina/PCTUS_COMB.seq:*
/cgn1_7/ptodata/1/ina/backfiles1.seq:*
 Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          2001,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              DΒ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     21:48:22 ; Search time 60.87 Seconds (without alignments)
1591.991 Million cell updates/sec
US-08-602-359A-23
US-09-128-155-16
US-09-128-155-17
US-09-128-155-17
US-07-638-431-1
PCT-US92-00018-1
US-08-317-175A-7
US-08-479-017-7
US-08-479-017-7
US-08-306-651B-15
PCT-US93-06251-29
US-08-9097-541-1
US-08-9097-541-1
US-08-98-88-13
US-08-98-627-28
US-08-95-627-28
US-08-95-627-2
US-08-95-627-2
US-08-95-627-2
US-08-505-486-95
US-08-95-9338-96
PCT-US95-09338-96
PCT-US95-09338-96
PCT-US95-09339-96
US-08-95-0486-95
US-08-95-0486-95
US-08-95-0486-95
US-08-95-0486-95
US-08-95-0486-95
US-08-95-0486-95
US-08-91-028-95
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             SUMMARIES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    605242
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Description
                                               sequence
                                                                                                                                                                                                                                                                                    sequence
sequence
sequence
sequence
sequence
               Sequence
Sequence
                                                                                                                                                                                                                                                                                                                                                                                    Sequence
Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                           Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                         Sequence
 23, Appl
17, Appl
17, Appli
18, Appli
19, Appli
19, Appli
22, Appli
22, Appli
24, Appli
27, Appli
28, Appli
29, Appli
29, Appli
29, Appli
20, Appli
20, Appli
21, Appli
22, Appli
23, Appli
24, Appli
25, Appli
26, Appli
27, Appli
28, Appli
29, Appli
29, Appli
29, Appli
20, Appli
21, Appli
22, Appli
23, Appli
24, Appli
25, Appli
26, Appli
27, Appli
28, Appli
29, Appli
29, Appli
20, Appli
21, Appli
22, Appli
23, Appli
24, Appli
25, Appli
26, Appli
27, Appli
28, Appli
29, Appli
29, Appli
29, Appli
20, Appli
20, Appli
21, Appli
22, Appli
23, Appli
24, Appli
25, Appli
26, Appli
27, Appli
28, Appli
29, Appli
29, Appli
29, Appli
20, Appli
20, Appli
21, Appli
22, Appli
23, Appli
24, Appli
25, Appli
26, Appli
27, Appli
28, Appli
29, Appli
29, Appli
20, Appl
```

RESULT 1 US-08-602-359A-2: Sequence 23, Al Patent No. 594 GENERAL INFORM APPLICANT: COUNTRY: COUNTRY: COMPUTER REJ ADDRESSEE STATE: 920 COMPUTER REJ COMPUTER REJ MEDIUM TY COMPUTER REJ COMPUTER COMPUTER REJ COMPUTER REJ COMPUTER REJ COMPUTER REJ COMPUTER REJ	5 4 3 2 2 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3	
plication US A30 AATION. ROBERTSON, I ROBERTSON, Path ROSMOTRA, Anti ROSMOTRA, ROSMOTRA ROSMOTRA, ROSMOTRA ROSM	5.8 1844 5.8 1844 5.8 1844 5.8 1844 5.8 1844 5.8 1844 5.8 1697 5.8 1697 5.8 5117	55555555555555555555555555555555555555
3/08602359A  Daniel E.  Daniel E.  Daniel E.  Daniel V.  Lick V.	S-08-838-189D S-08-852-344D S-08-852-34639E S-08-467-969A S-08-467-961A S-08-257-073- S-08-472-028A S-09-071-296- S-08-854-585- S-08-854-585-	T-US95-09338 T-US95-09339 T-US95-09339 08-731-722-08-731-722-08-838-189D 08-8467-963C 08-846-639E
	19 9 0 0 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	

```
NAME/KEY: misc_feature
: LOCATION: (1)...(152331
: OTHER INFORMATION: n =
US-09-128-155-16
                                                                                                                                                                                                                                                                                                                                                                                                               õ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                뫄
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  õ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      δÃ
                                                                                                                                                                                                                                                                                                                                 US-09-128-155-16/c
                                                                                                                                                                                                                                                                                                                                                                                                                                             밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    뫄
                                                                                            SEQ ID NO 16
LENGTH: 152331
                                                                                                                                                                                                                                                                       Sequence 16, Application US/09128155
Patent No. 6117654
GENERAL INFORMATION:
APPLICANT: Pan, Yang
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Query Match
Best Local Similarity
                                                                                                                                                TITLE OF INVENTION: NOVEL MOLECULES OF TANGO-77 RELATED PROTEIN FAMILY TITLE OF INVENTION: AND USES THEREOF FILE REFERENCE: 09404/052001
CURRENT APPLICATION NUMBER: US/09/128,155
CURRENT FILING DATE: 1998-08-03
EARLIER APPLICATION NUMBER: US 60/091,650
EARLIER APPLICATION NUMBER: US 60/091,650
EARLIER APPLICATION NUMBER: US 60/094,646
EARLIER FILING DATE: 1997-08-04
                                                                                                                      SOFTWARE: FastSEQ for Windows Version 3.0
                                                                                                                                       NUMBER OF SEQ ID NOS:
                                                      FEATURE:
                                                                ORGANISM: Homo sapiens
                                                                                 TYPE: DNA
                                                                                                                                                                                                                                                                                                                                                                                        541
                                                                                                                                                                                                                                                                                                                                                                                                                541
                                                                                                                                                                                                                                                                                                                                                                                                                                             481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          61
                                                                                                                                                                                                                                                                                                                                                                                      TACACTAAACGATAG 555
                                                                                                                                                                                                                                                                                                                                                                                                                                                        CCCGAGTTATTAGCGGTATTCTCGTTTTTACCATTCTATATAAGACAGTATTTTAAATCA 540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       GACGAAGTATATGGTTGGATACATTTCCTAGTCTCAGTATTGTTTTTCTTATCAATAATA 360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CCATTAACAATGATCGCATTAGCTATCTCTATGTCGTCATGGTTTAATATATGGAATAAT 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TACACTAAACGATAG 555
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             GGTCATATTGCAATGTGGTATCTACACTTTGCTTCAGAGATTCCGGAGAGGTGCTGCTATT 480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GCATATTTCATAGCTATATCAATACTTGACAAATCATGGATAGCTGTTCTACTAATAATA 420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CCCGAGTTATTAGCGGTATTCTCGTTTTTACCATTCTATATAAGACAGTATTTTAAATCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GGTCATATTGCAATGTGGTATCTACACTTTGCTTCAGAGATTCCGAGAGGTGCTGCTATT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     GCATATTTCATAGCTATATCAATACTTGACAAATCATGGATAGCTGTTCTACTAATAATA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          AGAGTTAAAGGATCTTTAATCATATCCATGGGTGTATTTCTTAACTTAATAGGGGTTTTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               100.0%; Score 555; DB 2; ilarity 100.0%; Pred. No. 3.5e-137; Conservative 0; Mismatches 0;
              A,T,C
              ç
              G
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Length 555;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       0;
```

```
CURRENT APPLICATION NUMBER: US/09/128,155
; CURRENT FILING DATE: 1998-08-03
; EARLIER APPLICATION NUMBER: US 60/091,650
; EARLIER FILING DATE: 1998-07-02
; EARLIER APPLICATION NUMBER: US 60/054,646
; EARLIER FILING DATE: 1997-08-04
; NUMBER OF SEQ ID NOS: 18
; SOFTWARE: FASTSEQ for Windows Version 3.0
; SEQ ID NO 17
                                                                                                                                                                                                                                                                    δõ
                                                                                                                                                                                                                                                                                                                                              Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ; LOCATION: (1)...(176373); COTHER INFORMATION: n = A US-09-128-155-17
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Qy
                                                                                                                                                                                                                                                                                                          Db 150501
                                                                                                                                                                                                                                                                                                                                                                                    Db 150561 GTGGTCTCATCCTCTAGCCTTTCTTCACATACGCATTTATATAACATACAAATATAGGAG 150502
                                                                                                                                                                                                                                                                                                                                                                                                                        δõ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Db 137920 TGTGTCTGACAAATTATTTTGTAAGATACATTTCCTACTTAATGTATCTTGCCTTTTCTA 137861
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Db 137980 GTGGTCTCATCCTCTAGCCTTTCTTCACATACGCATTTATATAACATACAAATATATGGAG 137921
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                QΥ
                                                                                                                                                      US-07-638-431-1
                                                                                                                                                                                                                                Db 150441 CTCAATATGATATCTCAAACATCGTTCCAT 150412
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         US-09-128-155-17/c
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Db 137860 CTCAATATGATATCTCAAACATCGTTCCAT 137831
                                                                                                                                                                          RESULT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Query Match
Best Local S
Matches 80
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GENERAL INFORMATION:
APPLICANT: Pan, Yang
TITLE OF INVENTION: NOVEL MOLECULES OF TANGO-77 RELATED PROTEIN FAMILY
TITLE OF INVENTION: AND USES THEREOF
FILE REFERENCE: 09404/052001
                                                                                          Sequence 1, Application US/07638431 Patent No. 5198535 GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Sequence 17, Application US/09128155 Patent No. 6117654
                                                                                                                                                                                                                                                                                                                                                                                                                                                                Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TYPE: DNA
ORGANISM: Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       FEATURE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               LENGTH:
                                    APPLICANT:
  APPLICANT:
                                                                            APPLICANT:
                                                                                                                                                                                                                                                        354 AATAATAGCATATTTCATAGCTATATCAAT 383
                                                                                                                                                                                                                                                                                                                              294 GGTTTTCGACGAAGTATATGGTTGGATACATTTCCTAGTCTCAGTATTGTTTTTCTTATC 353
                                                                                                                                                                                                                                                                                                                                                                                                                      234 GTGGAGTAGAGTTAAAGGATCTTTAATCATATCCATGGGTGTATTTCTTAACTTAATAGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              354 AATAATAGCATATTTCATAGCTATATCAAT 383
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      294 GGTTTTCGACGAAGTATATGGTTGGATACATTTCCTAGTCTCAGTATTGTTTTTCTTATC 353
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                234 GTGGAGTAGAGTTAAAGGATCTTTAATCATATCCATGGGTGTATTTCTTAACTTAATAGG 293
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Local Similarity 53.3 nes 80; Conservative
                                                                                                                                                                                                                                                                                                            TGTGTCTGACAAATTATTTTGTAAGATACATTTCCTACTTAATGTATCTTGCCTTTTCTA/150442
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 176373
              Charoenvit, Yupin
Hedstrom, Richard
Khusmith, Srisin
                                                                                                                                                                                                                                                                                                                                                                                                                                                                Conservative
                                                                            Hoffman,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                53.3%;
  Į۷,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      6.8%;
53.3%;
                                                                          Stephen L.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 A,T,C
William
                                                    Yupin
                                                                                                                                                                                                                                                                                                                                                                                                                                                            Score 38; DB of Pred. No. 0.8; 0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ç
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Score 38; DB 4; Length 152331; Pred. No. 0.77;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    DB 4; Length 176373;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                70;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      70;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                              0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      0
                                                                                                                                                                                                                                                                                                                                                                                                                                                            Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                          293
                                                                                                                                                                                                                                                                                                                                                                                                                                                                0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      0
```

immunogen and gene encoding

```
밁
                                                                                                                                                                                                                     ş
                                                                                                                                                                                                                                                   밁
                                                                                                                                                                                                                                                                              ş
                                                                                                                                                                                                                                                                                                                                                                                       ; LOCATION: 718..31; OTHER INFORMATION: US-07-638-431-1
                                                                                                                         PCT-US92-00018-1
                                                                                                                                           RESULT
                                                                                           GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                             Query Match
Best Local :
                                                                                                                                                                                                                                                                                                              Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TELEFAX: (301) 295-40: INFORMATION FOR SEQ ID NO:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          HYPOTHETICAL: N
ANTI-SENSE: N
ORIGINAL SOURCE:
                                                APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            NAME: Spevack, Avrom D. TELECOMMUNICATION INFORMATION: TELEPHONE: (301) 295-6759
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy
                                APPLICANT:
                                                                              APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                       FEATURE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  IMMEDIATE SOURCE:
LIBRARY: Py-la
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    SEQUENCE CHARACTERISTICS:
LENGTH: 4673 base pairs
TYPE: NUCLEIC ACID
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ATTORNEY/AGENT INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        SOFTWARE: PatentIn Rel
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              NUMBER OF SEQUENCES:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TITLE OF INVENTION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         MOLECULE TYPE:
                                                                                                                                                                                        323
                                                                                                                                                                                                                   356 TAATAGCATATTTCATAGCTATAT 379
                                                                                                                                                                                                                                                263 TTTTCGAAGAGAAATATTTTTAAATACTTTTTTTAGTGCTTGCATTATTTTTATGATATA 322
                                                                                                                                                                                                                                                                                                           / Match 6.5%;
Local Similarity 64.3%;
nes 54; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            APPLICATION NUMBER: FILING DATE: 19910: CLASSIFICATION: 42
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 COUNTRY:
                                                                                                                                                                                                                                                                                                                                                                                                                                       NAME/KEY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CELL TYPE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                DEVELOPMENTAL STAGE:
TISSUE TYPE: Blood
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 STRAIN:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    STRANDEDNESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TELEPHONE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        OPERATING SYSTEM:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 STREET:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ADDRESSEE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TISSUE TYPE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ORGANISM:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TOPOLOGY:
                                                                                                                                                                                                                                                                     TTTTCGACGAAGTATATGGTTGGATACATTTCCTAGTCTCAGTATTGTTTTTCTTATCAA 355
                                                                                                                                                                                      TATTAACATTCATAAAATATATAT 346
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Bethesda
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    20814-5044
                                                                                                           Application PC/TUS9200018
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Py10.1111
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ¥
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             17X(NL)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Medical Center
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              3: A. David Spevack
NMRDC Building 1 T-12 National Naval
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Py-lambdagt11-2-7 kb genomic expression
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   USA
                                                                                                                                                                                                                                                                                                                                                                                                                     CDS
718..3195
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Plasmodium yoelii
                 Rogers IV, William O.
                                                              Charoenvit,
                                                                            Hoffman, Stephen L.
                                 Khusmith,
                                              Hedstrom, Richard
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                erythrocytic stage
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    IBM PC compatible
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            19910110
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       DNA (genomic)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      double
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 295-4033
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        PC-DOS/MS-DOS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Protective malaria sporozoite surface protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        immunogen and gene
Protective malaria sporozoite surface protein
                                 Srisin
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Release #1.24
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           US/07/638,431
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               erythrocytic stage
                                                                                                                                                                                                                                                                                                             0;
                                                                                                                                                                                                                                                                                                                          Score 36; DB 1; Length 4673; Pred. No. 0.93;
                                                                                                                                                                                                                                                                                                             Mismatches
                                                                                                                                                                                                                                                                                                             30;
                                                                                                                                                                                                                                                                                                             Indels
                                                                                                                                                                                                                                                                                                           Gaps
                                                                                                                                                                                                                                                                                                             0
```

```
밁
                                                                                                                                                                                                                                                                                                     δÃ
                                                                                                                                            US-08-731-722-4
                                                                                                                                                                                                                                       Q
                                                                                                                                                                                                                                                                        Вb
                                                                                                                                                                                                                                                                                                                                                                                                               ; LOCATION: 718..31; OTHER INFORMATION: PCT-US92-00018-1
                                                                             Sequence 4, Application Patent No. 5961971
GENERAL INFORMATION:
APPLICANT: Martin
                                                                                                                                                                                                                                                                                                                                      Matches
                                                                                                                                                                                                                                                                                                                                                                    Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TELEFAX: (301) 295-4033 INFORMATION FOR SEQ ID NO:
                             APPLICANT: Martin, Frank N. TITLE OF INVENTION: Biocont TITLE OF INVENTION: by Pyth NUMBER OF SEQUENCES: 8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   NAME: Spevack, Avram D. TELECOMMUNICATION INFORMATION: TELEPHONE: (301) 295-6759
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.2:
CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   FEATURE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               IMMEDIATE SOURCE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ORIGINAL SOURCE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ATTORNEY/AGENT INFORMATION: NAME: Spevack, Avram D.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CORRESPONDENCE ADDRESS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           NUMBER OF SEQUENCES:
                CORRESPONDENCE ADDRESS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ANTI-SENSE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        MOLECULE TYPE: I
                                                                                                                                                                                                                                                                                       296 TTTTCGACGAAGTATATGGTTGGATACATTTCCTAGTCTCAGTATTGTTTTTCTTATCAA 355
                                                                                                                                                                                                          323 TATTAACATTCATAAAATATATAT 346
                                                                                                                                                                                                                                         356 TAATAGCATATTTCATAGCTATAT 379
                                                                                                                                                                                                                                                                       263 TTTTCGAAGAGAAATATTTTTAAATACTTTTTTTAGTGCTTGCATTATTTTTATGATATA 322
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    STREET: NMRDC Bulluluy
STREET: Medical Center
                                                                                                                                                                                                                                                                                                                                                                                                                                                   NAME/KEY: CDS
LOCATION: 718.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CLONE:
ADDRESSEE:
                                                                                                                                                                                                                                                                                                                                                     Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               LIBRARY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CELL TYPE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TISSUE TYPE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              DEVELOPMENTAL STAGE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                STRAIN:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ORGANISM:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TOPOLOGY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        STRANDEDNESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CLASSIFICATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    FILING DATE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  APPLICATION NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            COUNTRY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                STATE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ADDRESSEE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      LENGTH:
                                                                                                                                                                                                                                                                                                                                      54;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Bethesda
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 20814-5044
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Y: Py-lambdagt11-2-7 kb genomic expression \ensuremath{\text{Py}10.1111}
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       NUCLEIC ACID
                                                                                                                            Application US/08731722
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                M
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              17X(NL)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             E: A. David Spevack

NMRDC Building 1 T-12 National Naval
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                USA
                                                                                                                                                                                                                                                                                                                                      Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Plasmodium yoelii
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            erythrocytic stage
 Saliwanchik & Saliwanchik
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Blood
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         DNA (genomic)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   19920103
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          double
                                 Biocontrol of Fungal Soilborne Pathogens
by Pythium oligandrum
                                                                                                                                                                                                                                                                                                                                                   6.5%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Release #1.24
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  PCT/US92/00018
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              erythrocytic stage
                                                                                                                                                                                                                                                                                                                                      0
                                                                                                                                                                                                                                                                                                                                  Score 36; DB 5; Pred. No. 0.93; 0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                  DB 5;
                                                                                                                                                                                                                                                                                                                                    30;
                                                                                                                                                                                                                                                                                                                                                                Length 4673
                                                                                                                                                                                                                                                                                                                                    Indels
                                                                                                                                                                                                                                                                                                                                    0
                                                                                                                                                                                                                                                                                                                                 Gaps
```

0

2421 N.W. 41st Street, Suite A-1

```
밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                          Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ₽
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           õ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ; INDIVIDUAL ISOLATE: 17-1 US-08-731-722-4
                                                                                                                                                                                                                                                                                     US-08-137-175A-7
                                                                                                                                                                                                                                                                                                         RESULT
                                                                                                                                                                                                                                                    Sequence 7, Application US/08137175A Patent No. 5777095
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Matches 101;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Query Match
Best Local Similarity
                                                                                                                                                                                                                                     GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  INFORMATION FOR SEQ ID NO: 4: SEQUENCE CHARACTERISTICS:
                                                                                                                             TITLE OF INVENTION:
TITLE OF INVENTION:
NUMBER OF SEQUENCES:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               MOLECULE TYPE:
ORIGINAL SOURCE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        SOFTWARE: Patentin Rel
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US
                                                                                             ADDRESSEE: BROWDY AND NEIMARK
                                                                                                                                                                                                                    APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ATTORNEY/AGENT INFORMATION:
NAME: Whitlock, Ted W.
REGISTRATION NUMBER: 36,9
REFERENCE/DOCKET NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           COMPUTER READABLE FORM: MEDIUM TYPE: Floppy
                                                                                                                                                                                    APPLICANT:
                                                                                                                                                                                                    APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                512
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TELECOMMUNICATION INFORMATION: TELEPHONE: 352-375-8100
COMPUTER READABLE FORM:
                                                                                                                                                                                                                                                                                                                                                        692 TACTTTAATAAGAAATAATAATTAATATT 721
                                                                                                                                                                                                                                                                                                                                                                                                                        632 AAGAAATTTTTCAATAGAGAAAGGTTTTATTTTTTAATAGAAAATTGTAATTCTTATTT 691
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         572 ATTTCTAAATAATCATGAATTTAAACAGTAGACCCTATGAACCTTTAATAATAAGCTAT 631
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             210 AGTTGGTTTAAGAAATCTTTATTCGTGGAGTAGAGTTAAAGGATCTTTAATCATATCCAT 269
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                150 AAGCAGTGTTGCTCCAATATTCAATCTAGGTCTTGCAATTGGTGGGATACTAATTGTTAT 209
                                                                                                                                                                                                                                                                                                                                                                                                                                                        270 GGGTGTATTTCTTAACTTAATAGGGGTTTTCGACGAAGTATATGGTTGGATACATTTCCT 329
                                        CITY: Washington STATE: D.C.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        LENGTH: 1218 base pairs
TYPE: nucleic acid
STRANDEDNESS: single
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        COMPUTER: IBM PC OPERATING SYSTEM:
              COUNTRY: USA
ZIP: 20004
                                                                               STREET:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           STREET: 2421 N.W. CITY: Gainesville
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            FILING DATE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CLASSIFICATION:
                                                                                                                                                                                                                                                                                                                                                                                      AGTCTCAGTATTGTTTTTCTTATCAATAAT 359
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           AAATTGTGTAAATCCACCAGAAATTTTAACTATTATAAATATTGAAGAACTTTTACTTAT 571
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               32606-6669
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               13
                                                                             419 Seventh Street,
                                                                                                                                                                               HANSSON,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       352-372-5800
                                                                                                                                                                                                  BARBOUR, Alan G. BERGSTROEM, Sven
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          IBM PC compatible
SYSTEM: PC-DOS/MS-DOS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Floppy disk
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               DNA (genomic)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            6.4%;
48.1%;
                                                                                                                                                  PROPHYLAXIS
                                                                                                                                                                  IMPROVEMENT
                                                                                                                                                                                      Lennart
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Release #1.0, Version #1.30
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          US/08/731,722
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     36,965
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     UF-161
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Score 35.6; D
Pred. No. 0.8;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Mismatches
                                                                                                                                                                  IN BORRELIA BURGDORFERI AND
                                                                             Suite
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              DB 2;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              109;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Length 1218;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            0
```

```
Ş
                                                                                                                                                                                                                                                                                                                                                В
                                                                                                                                                                                                                                                                                                                                                                              ρy
                                                                                                                                                                                                                                                                                                                                                                                                                 В
                                                                                                                                                                                                                                                                           В
                                                                                                                                                                                                                                                                                                            Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                 Q
                                                                                                                                     US-08-479-017-7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        US-08-137-175A-7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TELEFAX: 202-,...
TELEFAX: 248633
TELEX: 248633
INFORMATION FOR SEQ ID NO: 7:
SEQUENCE CHARACTERISTICS:
SEQUENCE CHARACTERISTICS:
1 FNGTH: 1958 base pairs
                                                                                                  Sequence 7, Application US/08479017 Patent No. 6143872
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Matches
                                                                                  GENERAL INFORMATION:
TITLE OF INVENTION:
                                APPLICANT:
                                                APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          FEATURE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              MOLECULE TYPE: O
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TELECOMMUNICATION INFORMATION: TELEPHONE: 202-628-5197
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             PRIOR APPLICATION DATA:
APPLICATION NUMBER: PCT/US92/08972
FILING DATE: 22-OCT-1992
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                SOFTWARE: PatentIn Release #1.0, Version #1.25 CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           FILING DATE: 22-OCT-1992 ATTORNEY/AGENT INFORMATION:
                                                                APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                 196 ATACTAATTGTTATAGTTGGTTTAAGAAATCTTTATTCGTGGAGTAGAGTTAAAGGATCT 255
                                                                                                                                                                                                         185 GTTAGCAGCCTTGATGAA
                                                                                                                                                                                                                                         376 ATATCAATACTTGACAAA 393
                                                                                                                                                                                                                                                                           125 ATGAAAAAATATTTATTGGGAATAGGTCTAATATTAGCATTAATAGCATGTAAGCAAAAT 184
                                                                                                                                                                                                                                                                                                            316 TGGATACATTTCCTAGTCTCAGTATTGTTTTTCTTATCAATAATAGCATATTTCATAGCT 375
                                                                                                                                                                                                                                                                                                                                                                              256 TTAATCATATCCATGGGTGTATTTCTTAACTTAATAGGGGTTTTCGACGAAGTATATGGT 315
                                                                                                                                                                                                                                                                                                                                                NAME/KEY: CDS
LOCATION: 959..184
OTHER INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        NAME/KEY: CDS
LOCATION: 125..949
OTHER INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  בייטקאעוSM: Borrelia burgdorferi
STRAIN: Ip90
INDTVTCT--
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                STRANDEDNESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                APPLICATION NUMBER: FILING DATE: 26-OCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             INDIVIDUAL ISOLATE: INDIVIDUAL ISOLATE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         REGISTRATION NUMBER: 28, REFERENCE/DOCKET NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   MEDIUM TYPE:
                                                                                                                                                                                                                                                                                                                                                                                                                 5 ATAATTAGAATTATTATCATTTTATTTTTTTTTAATTTTGCTATTTGTTATTTGTTGATCT 64
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CLASSIFICATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ropology:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       FELEPHONE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     96;
                              BARBOUR, Alan G.
BERGSTROEM, Sven
HANSSON, Lennart
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CDS
959..1843
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CDNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          UMBER: US/08/137,175A
26-OCT-1993
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Floppy disk
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              single
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   6.3%;
IMPROVEMENT IN BORRELIA BURGDORFERI AND PROPHYLAXIS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      /product= "OspB
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        /product- "OspA"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Isolate from I. persulcatus from Soviet Union
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           28,005
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     0,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           BARBOUR=1B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Score 34.8;
Pred. No. 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   DB 1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     102;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Length 1958;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Gaps
```

0

NUMBER OF SEQUENCES:

```
В
                           Ş
                                                         В
                                                                                    Qy
                                                                                                                     В
                                                                                                                                                 Ş
                                                                                                                                                                                Вb
                                                                                                                                                                                                             Š
                                                                                                                                                                                                                                                                                                                        US-08-479-017-7
                                                                                                                                                                                                                                             Matches
                                                                                                                                                                                                                                                        Query Match 6.3%;
Best Local Similarity 48.5%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  INFORMATION FOR SEQ ID NO: SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           REGISTRATION NUMBER: 28,005
REFERENCE/DOCKET NUMBER: BA
TELECOMMUNICATION INFORMATION:
TELEPHONE: 202-628-5197
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             FILING DATE: 22-OCT-157.

ATTORNEY/AGENT INFORMATION:
NAME: COOPER, IVET P.
NAME: COOPER, 28,
                                                                                                                                                                                                                                                                                                                                                                                    FEATURE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ORIGINAL SOURCE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CORRESPONDENCE ADDRESS
                                                                                                                                                                                                                                                                                                                                                                                                                                                 FEATURE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 PRIOR APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       MOLECULE TYPE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TELLEFAX: 202
TELEFAX: 248633
185
                           376 ATATCAATACTTGACAAA 393
                                                          125
                                                                                         316
                                                                                                                                                    256
                                                                                                                                                                                                               196 ATACTAATTGTTATAGTTGGTTTAAGAAATCTTTATTCGTGGAGTAGAGTTAAAGGATCT 255
                                                                                                                                                                                                                                                                                                                                                                                                                 NAME/KEY:
LOCATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   APPLICATION NUMBER: US/08/137,175
FILING DATE: 26-OCT-1993
APPLICATION NUMBER: PCT/US92/08972
FILING DATE: 22-OCT-1992
                                                                                                                     65
                                                                                                                                                                                                                                                                                                                                     NAME/KEY: CDS
LOCATION: 959..1843
OTHER INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TELEPHONE: 202-v...
TELEPHONE: 202-737-3528
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   APPLICATION NUMBER: US/08/479,017 FILING DATE:
                                                                                                                                                                                                                                                                                                                                                                                                 OTHER INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                              INDIVIDUAL ISOLATE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               STRAIN:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CLASSIFICATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            OPERATING SYSTEM:
SOFTWARE: Patentl
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          COMPUTER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         COUNTRY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    STREET:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ORGANISM:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TOPOLOGY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       STRANDEDNESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ADDRESSEE:
                                                                                                                                                                                Ç
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    LENGTH:
GTTAGCAGCCTTGATGAA 202
                                                         ATGAAAAATATTTATTGGGAATAGGTCTAATATTAGCATTAATAGCATGTAAGCAAAAT 184
                                                                                      TGGATACATTTCCTAGTCTCAGTATTGTTTTTCTTATCAATAATAGCATATTTCATAGCT 375
                                                                                                                  TTAATCATATCCATGGGTGTATTTCTTAACTTAATAGGGGTTTTTCGACGAAGTATATGGT 315
                                                                                                                                                                               ATAATTAGAATTATCATTTTATTTTTTTAATTTGCTATTTGTTATTTGTTGATCT 64
                                                                                                                                                                                                                                               96;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          20004
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Washington
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     nucleic acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       D.C
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Ip90
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1958 base pairs
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    E: BROWDY AND NEIMARK
419 Seventh Street, N.W.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         USA
                                                                                                                                                                                                                                             Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                CDS
125..949
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            PatentIn Release #1.0, Version
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           IBM PC compatible
SYSTEM: PC-DOS/MS-DOS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Borrelia burgdorferi
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CDNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    single
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                22
                                                                                                                                                                                                                                                                                                                                      /product= "OspB"
                                                                                                                                                                                                                                                                                                                                                                                                 /product= "OspA"
                                                                                                                                                                                                                                                                                                                                                                                                                                                              Soviet Union
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Isolate from I. persulcatus from
                                                                                                                                                                                                                                          Score 34.8; DB 4;
Pred. No. 1.5;
0; Mismatches 102;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             BARBOUR-1B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Suite 300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               #1.25
                                                                                                                                                                                                                                                                        Length 1958;
                                                                                                                                                                                                                                             Indels
                                                                                                                                                                                                                                             0
                                                                                                                                                                                                                                          Gaps
```

ç

```
Qy
                                                                  망
                                                                                                γ
                                                                                                                                                                 20
                                                                                                                                                                                                    DЬ
                                                                                                                                                                                                                                   Qy
                                                                                                                                                                                                                                                                       B
                                                                                                                                                                                                                                                                                                    Qy
                                                                                                                                   Вb
                                                                                                                                                                                                                                                                                                                                                                                                                        ; TOPOLOGY: 11; MOLECULE TYPE: US-08-306-691B-15
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           US-08-306-691B-15
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                RESULT
                                                                                                                                                                                                                                                                                                                                                     Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Patent No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Sequence 15, Application US/08306691B Patent No. 5734039
                                                                                                                                                                                                                                                                                                                                       Matches 130;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GENERAL INFORMATION:
APPLICANT: Calabr
APPLICANT: Skorsk
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               INFORMATION FOR SEQ ID NO:
                                                                                                                                                                                                  4598 GTTACCTTGAAAGCTGAATTTATATTTAGTAACTTCTGTGTTAATACTGGATAGCATGAA 4657
                                                                                                                                                                                                                                                                   4538 TTTGTCAAAAAGTAATGATTTCTTGATAATTGTGTAGTGAATGTTTTTTTAGAACCCAGCA 4597
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            SEQUENCE CHARACTERISTICS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              REFERENCE/DOCKET NUMBER: 83
TELECOMMUNICATION INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ATTORNEY/AGENT INFORMATION:
NAME: Monaco, Daniel A
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CLASSIFICATION: 514
PRIOR APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  COMPUTER READABLE FORM: MEDIUM TYPE: Diskette,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CORRESPONDENCE ADDRESS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TITLE OF INVENTION:
4778 TTGAAGTGCCTGTTTGGGATAATGATAGGTAATTTAGATGAATTTAGGGG 4827
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         NUMBER OF SEQUENCES:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TELLEFAX: (2-
                               244 GTTAAAGGATCTTTAATCATATCCATGGGTGTATTTCTTAACTTAATAGG 293
                                                                                                184 GCAATTGGTGGGATACTAATTGTTATAGTTGGTTTAAGAAATCTTTATTCGTGGAGTAGA 243
                                                                                                                                                               124 TTAAGCGATCTAGGACATGCTGTTAAAAGCAGTGTTGCTCCAATATTCAATCTAGGTCTT 183
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TELEPHONE: (215) 568-83
TELEFAX: (215) 568-5549
TELEX: NO. 5734039e
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ADDRESSEE: Seidel, Gonda, STREET: Two Penn Center, CITY: Philadelphia
                                                                                                                                                                                                                                  64 TTAACAATGATCGCATTAGCTATCTCTATGTCGTCATGGTTTAATATATGGAATAATGCA 123
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          NAME: Monaco, Daniel A. REGISTRATION NUMBER: 30,480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 OPERATING SYSTEM: MS-DOS
SOFTWARE: WordPerfect 5.1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         STRANDEDNESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TYPE: nucleic acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 FILING DATE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 APPLICATION NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   FILING DATE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                APPLICATION NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      COMPUTER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     COUNTRY:
                                                                                                                                                                                                                                                                                                 CACATGAGTTCTTGAAGAATAGTCATAACTAGATTAAGATCTGTGTTTTAGTTTAATAGT 477;
                                                                                                                                 19102
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Pennsylvania
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Skorski,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Calabretta, Bruno
                                                                                                                                                                                                                                                                                                                                      Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       U.S.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                             linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  IBM PS/2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              September 15,
                                                                                                                                                                                                                                                                                                                                                                                                                                          DNA (genomic)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           double
                                                                                                                                                                                                                                                                                                                                                     6.1%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                568-8383
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ANTISENSE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       OLIGONUCLEOTIDES TARGETING COOPERATING ONCOGENES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   US/08/306,691B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              15:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    3.50 inch, 720
                                                                                                                                                                                                                                                                                                                                      0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Suite
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  8321-8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Lavorgna & Monaco, P.C
Suite 1800
                                                                                                                                                                                                                                                                                                                                                     Score 34; I
Pred. No. 3
                                                                                                                                                                                                                                                                                                                                       Mismatches
                                                                                                                                                                                                                                                                                                                                                                     DB 1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    3
                                                                                                                                                                                                                                                                                                                                      160;
                                                                                                                                                                                                                                                                                                                                                                       Length 5775
                                                                                                                                                                                                                                                                                                                                      Indels
                                                                                                                                                                                                                                                                                                                                      0,
                                                                                                                                                                                                                                                                                                                                  Gaps
```

```
; STRANDEDNESS:
; TOPOLOGY: lin
; MOLECULE TYPE:
PCT-US93-06251-29
                                                                                                                                            Вb
                                                                                                                                                                            Š
                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                               οy
                                                                                                                                                                                                                                                                                       В
                                                                                                                                                                                                                                                                                                                      Ş
                                                                                                                                                                                                                                                                                                                                                            В
                                                                                                                                                                                                                                                                                                                                                                                            Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                   B
                                                                     US-09-097-541-1
                                                                                        RESULT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     PCT-US93-06251-29
                Sequence 1, Application US/09097541 Patent No. 6100092 GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Sequence 29, Application PC/TUS9306251
GENERAL INFORMATION:
APPLICANT: Wickstrom, Eric and Rif
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Matches 130;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TELEFAX: 516-742-4366
TELEX: 230 901 SANS UR
INFORMATION FOR SEQ ID NO:
SEQUENCE CHARACTERISTICS:
LENGTH: 5775 base pairs
                                                                                                                                                                                                                                                                                                                                                                                                                                   4538
                                                                                                                                                                                                                                                                                        4658
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    COMPUTER: IBM PC COMPATIBLE
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: PATENTIN Release #1.0,
CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   APPLICANT: Wickstrom, Eric and Rife, Jason P.
TITLE OF INVENTION: Trivalent Synthesis of Oligonucleotides Containing
TITLE OF INVENTION: Stereospecific Alkylphosphonates and Arylphosphonates
NUMBER OF SEQUENCES: 93
CORRESPONDENCE ADDRESS:
ADDRESSEE: SCULLY, SCOTT, MURPHY & PRESSER
 APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TELECOMMUNICATION INFORMATION: TELEPHONE: 516-742-4343
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ATTORNEY/AGENT INFORMATION: NAME: DiGiglio, Frank S.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           COMPUTER READABLE FORM: MEDIUM TYPE: Floppy
                                                                                                                                                                                244
                                                                                                                                                                                                                                                     184
                                                                                                                                                                                                                                                                                                                          124
                                                                                                                                                                                                                                                                                                                                                                                               <u>6</u>2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TELEPHONE: 510-742-4366
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              NAME: DiGiglio, Frank S. REGISTRATION NUMBER: 31,346
REFERENCE/DOCKET NUMBER: 8586
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     FILING DATE: 1
CLASSIFICATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CITY: Garden City
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        STREET:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    COUNTRY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       APPLICATION NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                      GCAATTGGTGGGATACTAATTGTTATAGTTTGGTTTAAGAAATCTTTATTCGTGGAGTAGA 243
                                                                                                                                            TTGAAGTGCCTGTTTGGGATAATGATAGGTAATTTAGATGAATTTAGGGG 4827
                                                                                                                                                                            GTTAAAGGATCTTTAATCATATCCATGGGTGTATTTCTTAACTTAATAGG 293
                                                                                                                                                                                                                 CACATGAGTTCTTGAAGAATAGTCATAACTAGATTAAGATCTGTGTTTTAGTTTAATAGT
                                                                                                                                                                                                                                                                                                                                                          GTTACCTTGAAAGCTGAATTTATATTTAGTAACTTCTGTGTTAATACTGGATAGCATGAA 4657
                                                                                                                                                                                                                                                                                                                                                                                            TTAACAATGATCGCATTAGCTATCTCTATGTCGTCATGGTTTAATATATGGAATAATGCA 123
                                                                                                                                                                                                                                                                                                                                                                                                                               TTTGTCAAAAAGTAATGATTTCTTGATAATTGTGTAGTGAATGTTTTTTAGAACCCAGCA 4597
                                                                                                                                                                                                                                                                                       TTAAGCGATCTAGGACATGCTGTTAAAAGCAGTGTTGCTCCAATATTCAATCTAGGTCTT 183
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   11530
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  nucleic acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ΝY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        400 Garden City Plaza
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Conservative
Borysyuk, Mykola
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Floppy disk
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               DNA (genomic)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        19930630
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 double
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       6.1%;
44.8%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             . UR
29:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       PCT/US93/06251
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Score 34;
Pred. No. 3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Mismatches 160;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Version #1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        DB 5; Length 5775;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Gaps
                                                                                                                                                                                                                                                                                     4717
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     0;
```

```
Ş
                                                                                                                                                                                                                                                                                                  Qy
                                                                                                                                                                                                                                                                                                                                            밁
                                                                                                                                                                                                                                                                                                                                                                             Qy
                                                                                                                                                                                                                                                                                                                                                                                                                       В
                                                                                                                                     Ş
                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                            맑
                                                                                                                                                                                                                                                                                                                                                                                                                                                           Ş
                  US-08-487-826B-13/c
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         US-09-097-541-1
                                         RESULT
Sequence 13,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Query Match 6.1%;
Best Local Similarity 46.0%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Matches 114;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TELEPHONE: (312) 474-6300
TELEFAX: (312) 474-0448
INFORMATION FOR SEQ ID NO: 1:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ATTORNEY/AGENT INFORMATION:
NAME: METKEL, William K.
REGISTRATION NUMBER: 40,725
REFERENCE/DOCKET NUMBER: 2915
TELECOMMUNICATION INFORMATION:
TELEPHONE: (312) 474-6300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SEQUENCE CHARACTERISTICS:
LENGTH: 446 base pairs
TYPE: nucleic acid
STRANDEDNESS: single
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.30
CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                MOLECULE TYPE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 NUMBER OF SEQUENCES: 1
CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      APPLICANT: Raskin, TITLE OF INVENTION:
                                                                                                                                                                                                                                                                                                                                                                                                                       126 ATTTTATGCATTGTATTTTTAAATAGTTTTTATCGTACTTGTTTTATAAAAATATTT 185
                                                                                                                                                                                                                                                                                                                                                                                                                                                             196 ATACTAATTGTTATAGTTGGTTTAAGAAATCTTTATTCGTGGAGTAGAGTTAAAGGATCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     STREET: 233 SO
CITY: Chicago
STATE: Illinoi
                                                                                                    366 TCATTTGT 373
                                                                                                                                         436 TGGTATCT 443
                                                                                                                                                                               376 ATATCAATACTTGACAAATCATGGATAGCTGTTCTACTAATAATAGGTCATATTGCAATG 435
                                                                                                                                                                                                                                                                                                  316 TGGATACATTTCCTAGTCTCAGTATTGTTTTTCTTATCAATAATAGCATATTTCATAGCT 375
                                                                                                                                                                                                                                                                                                                                            186 ATTATTTTATGTGTTATATTATTACTTGATGTATTGGAAATTTTCTCCATTGTTTTTTCT
                                                                                                                                                                                                                                                                                                                                                                 256 TTAATCATATCCATGGGTGTATTTCTTAACTTAATAGGGGTTTTTCGACGAAGTATATGGT 315
                                                                                                                                                                                                                                                            246 ATATTTATAATAATTTTCTTATTTTTTTTTATTATTATGTATTTTTCGTTTTATAAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TOPOLOGY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            FILING DATE:
CLASSIFICATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            LECULE TYPE: other nucleic acid
DESCRIPTION: /desc = "APS rDNA sequence"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      APPLICATION NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                COUNTRY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ADDRESSEE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                60606-6402
Application US/08487826B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Illinois
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           E: Marshall, O'Toole, Gerstein, Murray & 233 South Wacker Drive/6300 Sears Tower
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Borysyuk, Lyudmyla
Raskin, Ilya
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                United States of America
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Materials and methods for amplifying polynucleotides in plants
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      us/09/097,541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      0,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 29155/34699
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Score 33.6;
Pred. No. 2;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Mismatches 134;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            DB 4; Length 446;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Gaps
                                                                                                                                                                                                                                                            305
                                                                                                                                                                                                                                                                                                                                            245
                                                                                                                                                                                                                                                                                                                                                                                                                                                               255
```

0

Patent No. 5993827
GENERAL INFORMATION:

APPLICANT:

APPLICANT:

RMAILC...
Sim, Kim L.
Sim, Kim L.
Chitnis, Chetan
Chitnis, Louis H.
Miller, Louis H.

```
В
                                                                                                                                                                                                                                                                                                                                                                                                                                                       Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                       15482
                                                                                                                                                                                                                                                         TELEFAX: (619) 235-017
NFORMATION FOR SEQ ID NO:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             SOFTWARE: Patentin Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
APPLICATION NIMBERS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  MOLECULE NO PROPERTY NO
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 REFERENCE/DOCKET NUMBER: NI
TELECOMMUNICATION INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               COMPUTER READABLE FORM: MEDIUM TYPE: Floppy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   MOLECULE TYPE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CORRESPONDENCE ADDRESS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TITLE OF INVENTION: BINDING DOMAINS FROM PLASMODIUM VIVAX
TITLE OF INVENTION: AND PLASMODIUM FALCIPARUM ERYTHROCYTE BINDING PROTEINS
                                                                                                                                                                                                                            197
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ATTORNEY/AGENT INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                NUMBER OF SEQUENCES:
                                 377
                                                                                                                                                                                                                                                                                       137 GACATGCTGTTAAAAGCAGTGTTGCTCCAATATTCAATCTAGGTCTTGCAATTGGTGGGA 196
                                                                                                                                                                                                                                                                                                                                        79 TTAGCTATCTCTA--TGTCGTCATGGTTTAATATGGAATAATGCATTAAGCGATCTAG 136
                                                                                                                                                                                                                                                                                                                                                                                                      NAME: Israelsen, Ned REGISTRATION NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           APPLICATION NUMBER: FILING DATE: 10-SEF CLASSIFICATION: 435
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TELEPHONE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                COUNTRY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TOPOLOGY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  STRANDEDNESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ADDRESSEE:
                                                                                                                                                                                                                         TACTAATTGTTATAGTTGGTTTAAGAAATCTTTATTCGTGGAGTAGAGTTAAAGGATCTT 256
                                                            TAATCATATCCATGGGTGTATTTCTTAACTTAATAGGGGTTTTCGACGAAGTATATGGTT 316
                                                                                                                                                                                                                                                                                                                                                                                                                                                       191;
                            TATCAATACTTGACAAATCATGGATAGCTGTTCTACTAATAATAGGTCATATTGCAAT 434
                                                                                            GGATACATTTCCTAGTCTCAGTATTGTTTTTCTTATCAATAATAGCATATTTCATAGCTA 376
                                                                                                                          TTTTAATATAAATACATATATAAAAATATATATAAAAACACATAC-AAGTACATCCAT 15364
                                                                                                                                                                                         Newport Beach
: California
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  92660
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 nucleic acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             52: Knobbe Martens Olson & Bear
620 Newport Center Drive 16th Floor
                                                                                                                                                                                                                                                                                                                                                                                                                                                       Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Su, Xin-zhaun
Wellems, Thomas E.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        N
O
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   (619) 235-8550
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Floppy disk
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CDNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   10-SEP-1993
N: 435
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   single
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   235-0176
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    6.1%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 29,655
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     13:
                                                                                                                                                                                                                                                                                                                                                                                                                                                     0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   NIH121.001CP1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Score 33.6;
Pred. No. 6;
                                                                                                                                                                                                                                                                                                                                                                                                                                                     Mismatches 224;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   DB 2;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Length 19124;
                                                                                                                                                                                                                                                                                                                                                                                                                                                     Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                     ω
··
                                                                                                                                                                                                                                                                                                                                                                                                                                                   Gaps
                                                                                                                                                                                          15423
                                                                                                                                                                                                                                                                                                                                                                                                                                                     2;
```

В ρ

밁 ρy

Barry, Gerard Kishore, Ganes

δÃ В Q 밁 δõ В Ş

В

```
Ω
                                                                                                                                                                                                                                      망
                                                                                                                                                                                                                                                                      Qy
                                                                                          US-08-398-627-28
                                                                                                                                                                                                                                                                                                          밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ; MOLECULE TYPE: DNA (genomic) US-08-090-523-28
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           US-08-090-523-28
                                                                                                          RESULT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  RESULT
Patent No. 5608149
GENERAL INFORMATION:
APPLICANT: Barry,
APPLICANT: Kishor
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Sequence 28, Applia Patent No. 5498830
                                                                                                                                                                                                                                                                                                                                                                             Query Match
Best Local Similarity
Matches 83; Conserv
                                                                       Sequence 28,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TELEFAX: (314) 537-60 INFORMATION FOR SEQ ID NO:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               REFERENCE/DOCKET NUMBER: 38
TELECOMMUNICATION INFORMATION:
TELEPHONE: (314) 537-7286
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        APPLICATION NUMBER: US 07/539763
FILING DATE: 18-JUN-1990
ATTORNEY/AGENT INFORMATION:
NAME: Bonner, Grace L.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 07/709663
FILING DATE: 07-JUN-1991
PRIOR APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            COMPUTER: IBM PC compatible OPERATING SYSTEM: PC-DOS/MS-DOS SOFTWARE: Patentin Release #1.0, CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ZIP: 63198
COMPUTER READABLE FORM:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TITLE OF INVENTION: Enhanced Starch Biosynthesis NUMBER OF SEQUENCES: 51
CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      APPLICANT:
                                                                                                                                                             168 TAAATTTTAATATTTTTATAAAAAAATATCGAGCTAAATCATATC
                                                                                                                                                                                             397 TGGATAGCTGTTCTACTAATAATAGGTCATATTGCAATGTGGTATC 442
                                                                                                                                                                                                                                      108
                                                                                                                                                                                                                                                       337 GTATTGTTTTTTTTTTATCAATAATAGCATATTTCATAGCTATATCAATACTTGACAAATCA 396
                                                                                                                                                                                                                                                                                                                                          277 TTTCTTAACTTAATAGGGGTTTTCGACGAAGTATATGGTTGGATACATTTCCTAGTCTCA 336
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        APPLICATION NUMBER: US
FILING DATE: 19930712
                                                                                                                                                                                                                                                                                                            48
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CLASSIFICATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      STRANDEDNESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        NAME: Bonner, Grace L
REGISTRATION NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          STREET:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TOPOLOGY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 MEDIUM TYPE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       COUNTRY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            LENGTH:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ADDRESSEE:
                                                                                                                                                                                                                                 TTTTTTTTTTTTATCAAAATGATTGGCTGCTATAAAATATCTAATGGTTATTATACA
                                                                                                                                                                                                                                                                                                        TTTCTTTTTTAATCGATTTCTTACTCTAATTGAACTATTGGAGACAACTTAAATGTAAA 107
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         nucleic
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           St. Louis
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Missouri
                                                                     Application US/08398627
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            450 base pairs
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Application US/08090523
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          E: Grace L. Bonner, Monsanto Co. BB4F 700 Chesterfield Parkway No. 5498830th
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Kishore, Ganesh
Stark, David M.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       USA
                                                                                                                                                                                                                                                                                                                                                                               Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    (314) 537-6047
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Barry, Gerard F.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Floppy disk
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            double
                                                                                                                                                                                                                                                                                                                                                                                          6.0%;
50.0%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Ganesh M.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           US/08/090,523
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        32,963
                                                                                                                                                                                                                                                                                                                                                                             0;
                                                                                                                                                                                                                                                                                                                                                                                            Score 33.2;
Pred. No. 2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       38-21(10559)A
                                                                                                                                                                                                                                                                                                                                                                               Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Version
                                                                                                                                                                                                                                                                                                                                                                                                                 DB
                                                                                                                                                                                                                                                                                                                                                                               83;
                                                                                                                                                                                                                                                                                                                                                                                                               Length 450;
                                                                                                                                                                                                                                                                                                                                                                             Indels
                                                                                                                                                                                                                                                                                                                                                                             0;
                                                                                                                                                                                                                                                                                                                                                                           Gaps
```

CORRESPONDENCE ADDRESS:

STREET: ADDRESSEE:

E: Grace L. Bonner, Monsanto Co. BB4F 700 Chesterfield Parkway No. 5608149th

NUMBER OF SEQUENCES: APPLICANT: Stark, David M. FITLE OF INVENTION: Enhance

Enhanced Starch Biosynthesis

```
US-08-406-857-2
US-08-406-857-2
; Sequence 2, Application US/08406857
; Patent No. 5608150
; PATENT INFORMATION:
                                                                                                                                                                                                                                                                                                                               В
                                                                                                                                                                                                                                                                                                                                                                 Ş
                                                                                                                                                                                                                                                                                                                                                                                                     Вþ
                                                                                                                                                                                                     RESULT
                                                                                                                                                                                                                                                          В
                                                                                                                                                                                                                                                                                          Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                     S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   US-08-398-627-28
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Query Match
Best Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      NAME: BONNEY, Grace L.

REGISTRATION NUMBER: 32,963
REFERENCE/DOCKET NUMBER: 38-2
TELECOMMUNICATION INFORMATION:
TELEPHONE: (314) 537-7286
TELEFAX: (314) 537-6047
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TELEFAX: (314) 537-60 INFORMATION FOR SEQ ID NO:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                APPLICATION NUMBER: US 08/
FILING DATE: 12-JUI-1993
APPLICATION NUMBER: US 07/
FILING DATE: 07-JUN-1991
PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 07/
FILING DATE: 18-JUN-1990
ATTORNEY/AGENT INFORMATION:
                                                                                          APPLICANT: Conner, Timothy W. TITLE OF INVENTION: Fruit Spe
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       COMPUTER: IBM PC compatible
                                                    CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    SOFTWARE: PatentIn Rel
CURRENT APPLICATION DATA:
                                                                       NUMBER OF SEQUENCES:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  MOLECULE TYPE: DNA (genomic)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CLASSIFICATION: 800 PRIOR APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                   337
                                                                                                                                                                                                                                                        168 TAAATTTTAATATTTTTATAAAAAAATATCGAGCTAAATCATATC 213
                                                                                                                                                                                                                                                                                        397 TGGATAGCTGTTCTACTAATAATAGGTCATATTGCAATGTGGTATC 442
                                                                                                                                                                                                                                                                                                                             108 TTTTTTTTTTTTATCAAAATGATTGGCTGCTATATAAATATCTAATGGTTATTATACA
                                                                                                                                                                                                                                                                                                                                                                                                                                     277 TTTCTTAACTTAATAGGGGTTTTCGACGAAGTATATGGTTGGATACATTTCCTAGTCTCA 336
                                                                                                                                                                                                                                                                                                                                                                                                 48 TTTCTTTTTTTAATCGATTTCTTACTCTAATTGAACTATTGGAGACAACTTAAATGTAAA 107
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         / Match 6.0%;
Local Similarity 50.0%;
les 83; Conservative
                  STREET:
                                     ADDRESSEE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     LENGTH: 450 base pairs
TYPE: nucleic acid
STRANDEDNESS: double
TOPOLOGY: linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              OPERATING SYSTEM:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    APPLICATION NUMBER: FILING DATE: 03-MA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    COUNTRY:
                                                                                                                                                                                                                                                                                                                                                        GTATTGTTTTCTTATCAATAATAGCATATTTCATAGCTATATCAATACTTGACAAATCA 396
St.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     63198
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        St.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Missouri
                E: Grace L. Bonner, Monsanto Company, BB4F 700 Chesterfield Parkway No. 5608150th
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           PatentIn Release #1.0, Version #1.25
 Louis
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Louis
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      12-JUL-1993
IMBER: US 07/709663
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      03-MAR-1995
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            PC-DOS/MS-DOS
                                                                                        Fruit Specific Promoters
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       US 07/539763
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                US 08/090,52
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       US/08/398,627
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               28:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 38-21(10559)A
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Score 33.2; DB 1;
Pred. No. 2.6;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            83;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Length 450;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Gaps
```

2001,

22:40:51

```
₽
                                                                                                                          Ş
                                                                                                                                                                                                  Ş
                                                                                                                                                                                                                                         밁
Search completed: May 30, Job time: 3149 sec
                                                                                                                                                                                                                                                                         δÃ
                                                                                                                                                                                                                                                                                                                                                                                                     ; MOLECULE TYPE: US-08-406-857-2
                                                                                                                                                                                                                                                                                                               Matches
                                                                                                                                                                                                                                                                                                                                 Query Match
Best Local :
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TELEFAX: (314)537-604 INFORMATION FOR SEQ ID NO:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      FILING DATE: 27-JUN-1994
PRIOR APPLICATION DATA:
APPLICATION UDMBER: US 08/
FILING DATE: 12-JUL-1993
ATTORNEY/AGENT INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        SEQUENCE CHARACTERISTICS:
LENGTH: 450 base pairs
TYPE: nucleic acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    REFERENCE/DOCKET NUMBER: 38
TELECOMMUNICATION INFORMATION:
TELEPHONE: (314)537-7286
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      PRIOR APPLICATION DATA:
APPLICATION NUMBER: PCT/
FILING DATE: 27-JUN-1994
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        COMPUTER READABLE FORM: MEDIUM TYPE: Floppy disk
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CURRENT APPLICATION DATA:
                                                                                                                                                                                                      337
                                                                                                                                                                                                                                                            277 TTTCTTAACTTAATAGGGGTTTTCGACGACGAAGTATATGGTTGGATACATTTCCTAGTCTCA 336
                                                                                                                          397 TGGATAGCTGTTCTACTAATAATAGGTCATATTGCAATGTGGTATC 442
                                                                                                                                                              108 TTTTTTTTTTTTTATCAAAATGATTGGCTGCTATATAAATATCTAATGGTTATTATACA 167
                                                                                         168 TAAATTTTAATATTTTTATAAAAAAATATCGAGCTAAATCATATC
                                                                                                                                                                                                                                         48
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.30
                                                                                                                                                                                                                                                                                                             Local Similarity
les 83; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                      TOPOLOGY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                         STRANDEDNESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      NAME: Bonner, Grace L. , REGISTRATION NUMBER: 32,963
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CLASSIFICATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 FILING DATE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                APPLICATION NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             COUNTRY:
                                                                                                                                                                                   GTATTGTTTTTCTTATCAATAATAGCATATTTCATAGCTATATCAATACTTGACAAATCA 396
                                                                                                                                                                                                                                     TTTCTTTTTTTAATCGATTTCTTACTCTAATTGAACTATTGGAGACAACTTAAATGTAAA 107
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              63198
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Missouri
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     (314)537-6047
                                                                                                                                                                                                                                                                                                               Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                      DNA (genomic)
                                                                                                                                                                                                                                                                                                                                                                                                                                                           double
                                                                                                                                                                                                                                                                                                                             50.0%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    US 08/090,523
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         PCT/US94/07072
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                US/08/406,857
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   <u>ب</u>
                                                                                                                                                                                                                                                                                                               0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        38-21(10655)A
                                                                                                                                                                                                                                                                                                             Score 33.2; DI
Pred. No. 2.6;
O; Mismatches
                                                                                                                                                                                                                                                                                                                                              DB 1; Length 450;
                                                                                                                                                                                                                                                                                                               83;
                                                                                                                                                                                                                                                                                                               Indels
                                                                                                                                                                                                                                                                                                             0
                                                                                                                                                                                                                                                                                                             Gaps
```

```
Title:
Perfect score:
Sequence:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          OM nucleic -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Database :
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Minimum DB seq length: 0
Maximum DB seq length: 2000000000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Total number of hits satisfying chosen parameters:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Searched:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Scoring table:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    on:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         nucleic search, using sw model
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              US-09-382-242-23
555
1 ATGTCTTTAAACAAG
                                                                                                                                                                                                                                     10:
11:
12:
13:
13:
14:
15:
16:
17:
17:
18:
19:
20:
21:
22:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          May 30, 2001, 21:07:06; Search time 1108.56 Seconds (without alignments) 4373.723 Million cell up
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  9623517 segs, 4368049070 residues
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           IDENTITY_NUC
Gapop 10.0 , Gapext 1.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GenCore version Copyright (c) 1993 - 2000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ATGTCTTTAAACAAGCACTC.....AATCATACACTAAACGATAG
                                                                                                    9b_est22:

9b_est23:

9b_est24:

9b_est33:

9b_est33:

9b_est35:

9b_est36:

9b_est36:

9b_est37:

9b_est38:

9b_est40:

em_est40:
                                                                                                                                                                                                                                                                                                                                                                                                                          gb_est6:*
gb_est7:*
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             gb_est1:*
em_esthum1:
em_esthum2:
em_esthum3:
em_esthum4:
em_esthum5:
em_esthum6:
em_esthum7:
em_esthum7:
em_esthum8:
                                                                                                                                                                                                                                                                     gb_est18:*
gb_est19:*
gb_est20:*
                                                                                                                                                                                                                                                                                                                                          gb_est11:*
gb_est12:*
gb_est13:*
gb_est14:*
                                                                                                                                                                                                                                                                                                                                                                                                   gb_est9:*
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  gb_est2:*
                                                                                                                                                                                                                                                                                                                                                                                                               gb_est8:*
                                                                                                                                                                                                                                                                                                                                                                                                                                                 gb_est5:*
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        gb_est3:*
                                                                                                                                                                                                                                                                                                                                                                                                                                                           3b_est4:*
                                                                                                                                                                                                                                                       gb_est21:*
                                                                                                                                                                                                                                                                                                                            gb_est15
                                                                                                                                                                                                                                                                                                         b_est17
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           4.5
Compugen Ltd.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          alignments)
Million cell updates/sec
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               19247034
                                                                                                                100:
101:
102:
103:
104:
106:
                                                                                                                                                                                                         em_estro14:*
em_estro15:*
em_estro16:*
em_estro17:*
                                                                                                                                                                                                                                                       em_estrol1:*
em_estrol2:*
em_estrol3:*
                                                                                                                                                                                                                                                                                                                                                                                      em_estpl10:*
em_estro1:*
em_estro2:*
                                                                                                                                                                                                                                                                                                                                                                                                                                  em_estp17:
em_estp18:
                                                                                       em_estro19:*
em_estro20:*
gb_est25:*
gb_est26:*
gb_est27:*
gb_est27:*
gb_est28:*
gb_est30:*
gb_est31:*
gb_est41: *
gb_est41: *
gb_est42: *
gb_est42: *
gb_est44: *
gb_est44: *
gb_est46: *
gb_est46: *
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     em_estpl4:*
em_estpl5:*
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                em_esthum26:*
em_esthum27:*
                                                                                                                                                                                              em_estro18:*
                                                                                                                                                                                                                                                                                                       em_estro9:*
                                                                                                                                                                                                                                                                                                                                                     em_estro4:*
em_estro5:*
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       em_estpl2:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   em_estov2:*
em_estpl1:*
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   em_estom1:*
em_estom2:*
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  em_estin2:*
em_estin3:*
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         em_estin1:*
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             em_esthum23:*
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   em_esthum21
```

em\_estrol0:\* em\_estro8:\* em\_estro7:\* em\_estro6:\* em\_estro3:\*

em\_estp]

em\_estp]

em\_estp]

em\_estov1:\*

em\_estin5:\* em\_estin4:\* em\_esthum25:\* em\_esthum24:\* em\_esthum22:\* em\_esthum19:\* em\_esthum17:\* em\_esthum16:\* em\_esthum15:\*

```
Result
                              0000 00
                                                                                                                                                                                                                                                                                                                              0000
                                                                                                                                                                                                                                                                                                                                                                                                                                                            000
      1154
1154
1154
1154
1154
1154
1154
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Pred. No. is th score greater t and is derived
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Score
   4444444

4444444

444444

444444

44444

44444

44444

44444

44444

44444

44444

44444

44444

44444

44444

44444

44444

44444

44444

44444

44444

44444

44444

44444

44444

44444

44444

44444

44444

44444

44444

44444

44444

44444

44444

44444

44444

44444

44444

44444

44444

44444

44444

44444

44444

44444

44444

44444

44444

44444

44444

44444

44444

44444

44444

44444

44444

44444

44444

44444

44444

44444

44444

44444

44444

44444

44444

44444

44444

44444

44444

44444

44444

44444

44444

44444

44444

44444

44444

44444

44444

44444

44444

44444

44444

44444

44444

44444

44444

44444

44444

44444

44444

44444

44444

44444

44444

44444

44444

44444

44444

44444

44444

44444

44444

44444

44444

44444

44444

44444

44444

44444

44444

44444

44444

44444

44444

44444

44444

44444

44444

44444

44444

44444

44444

44444

44444

44444

44444

44444

44444

44444

44444

44444

44444

44444

44444

44444

44444

44444

44444

44444

44444

44444

44444

44444

44444

44444

44444

44444

44444

44444

44444

44444

44444

44444

44444

44444

44444

44444

44444

44444

44444

44444

44444

44444

44444

44444

44444

44444

44444

44444

44444

44444

44444

44444

44444

44444

44444

44444

44444

44444

44444

44444

44444

44444

44444

44444

44444

44444

44444

44444

44444

44444

44444

44444

44444

44444

44444

44444

44444

44444

44444

44444

44444

44444

44444

44444

44444

44444

44444

44444

44444

44444

44444

44444

44444

44444

44444

44444

44444

44444

44444

44444

44444

44444

44444

44444

44444

44444

44444

44444

44444

44444

44444

44444

44444

44444

44444

44444

44444

44444

44444

44444

44444

44444

44444

44444

44444

44444

44444

44444

44444

44444

44444

44444

44444

44444

44444

44444

44444

44444

44444

44444

44444

44444

44444

44444

44444

44444

44444

44444

44444

44444

44444

44444

44444

44444

44444

44444

44444

44444

44444

44444

44444

44444

44444

44444

44444

44444

44444

444
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        is the number of results predicted by chance to havater than or equal to the score of the result being rived by analysis of the total score distribution.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Query
Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      em_gss_pln1 :
em_gss_pro1 :
em_gss_rod1 :
em_gss_rod3 :
em_gs_rod3 :
em_gss_rod3 :
em_gs_rod3 :
em_gss_rod3 :
em_gss_rod3 :
em_gs_rod3 :
em_gs
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Length
1101
11101
11101
11101
1101
878
878
500
500
11101
11101
641
982
988
491
500
856
911
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 IJ
CNS00EVL
CNS000WL
CNS000D1
CNS00039G
CNS0039G
CNS0167R
AU086529
BF616219
BF616219
CNS0106X
CNS01106X
CNS01
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       SUMMARIES
```

Description

have a ing printed,

AL069706 AL065417 AL065417 AL063921 AL086529 BF616219 BF616219 AL1098595 AL103027 AL103027

Drosophil Drosophil Drosophil Drosophil Drosophil Drosophil AU086529 HVSMEC000 Drosophil Drosophil Sheared Drosophil Sheared Tubr Fugu rubr Fugu rubr Fugu rubr Fugu rubr AU086530 ENTJN11TF

9b\_est48: \*
9b\_est51: \*
9b\_est51: \*
9b\_est52: \*
9b\_est53: \*
9b\_est53: \*
9b\_est54: \*
9b\_est54: \*
9b\_est55: \*
9b\_est56: \*
9b\_est56: \*
9b\_est66: \*
9b\_est101: \*
9b\_est106: \*
9b\_est10

other:\*

```
RESULT 1
CNS00EVL/c
                                                                                                                                                                                                                                                                                                                                     VERSION
KEYWORDS
                                                    FEATURES
                                                                                                                                                                                                            COMMENT
                                                                                                                                                                                                                                                                        REFERENCE
                                                                                                                                                                                                                                                                                                                             SOURCE
                                                                                                                                                                                                                                                                                                                                                                                        DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ი
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          000
                                                                                                                                                                                                                                                                                                                                                           ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      O
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            იიი
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               0.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  0000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    0000
                                                                                                                                                                                                                                                   AUTHORS
TITLE
                                                                                                                                                                                                                                           JOURNAL
                                                                                                                                                                                                                                                                                                                   ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     source
                                                        Determination of this BAC-end sequence was carried out as part of a collaboration with the Berkeley Drosophila Genome Project (BDGP). The BDGP is constructing a physical map of the Drosophila melanogaster genome using these BACs. For further information please see http://www.fruitfly.org The BDGP Drosophila melanogaster BAC library was prepared by Kazutoyo Osoegawa and Maron Mammoser in Pieter de Jong's laboratory in the Department of Cancer Genetics at the Roswell Park Cancer Institute in Buffalo, NY. The library is named RPCI-98 and was constructed by partial EcoRI digestion of Drosophila DNA provided by the BDGP from the isogenic strain y2; cn bw sp, the same strain used for the BDGP's Pl and EST libraries. A more detailed description of the library and how to order individual BAC clones, the entire library, or filters for hybridization from the BACPAC Resource Center can be found at http://bacpac.med.buffalo.edu/drosophila_bac.htm.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     44.2
44.2
43.8
43.6
43.4
43.2
                                                                                                                                                                                                                                                                       Drosophila melanogaster
Eukaryota; Metazoa; Arthropoda; Tracheata; Hexapoda; Ins
Pterygota; Neoptera; Endopterygota; Diptera; Brachycera;
Muscomorpha; Ephydroidea; Drosophilidae; Drosophila.
1 (bases 1 to 1101)
                                                                                                                                                                                                                                                                                                                                                          fly), gen
AL069706
                                                                                                                                                                                                                                                                                                                                                                 Drosophila melanogaster genome survey sequence T7 end of BAC: BACR29B23 of RPCI-98 library from Drosophila melanogaster (fruit fly), genomic survey sequence.
                                                                                                                                                                                                                               ВP
                                                                                                                                                                                                                                                   Genoscope.
Direct Submission
                                                                                                                                                                                                                                                                                                                                      GSS
                                                                                                                                                                                                                                         Submitted (02-JUN-1999)
                                                                                                                                                                                                                                                                                                                                                AL069706.1
                                                                                                                                                                                                                              bmitted (02-JUN-1999) Genoscope - Centre National de Sequencage
191 91006 EVRY cedex - FRANCE (E-mail : seqref@genoscope.cns.fi
                                                                                                                                                                                                                     www.genoscope.cns.fr)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     /organism="Drosophila
/db_xref="taxon:7227"
/clone_lib="RPCI-98"
/clone="BACR29B23"
                                                    Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                GI:4949849
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1131
537
793
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1101
514
653
1021
859
876
919
931
1101
1101
1101
582
769
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     822
848
1101
1101
645
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            876
905
914
                                                                                                                                                                                                                                                                                                                                                                                                  1101 bp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   AZ679343
AZ541840
AZ686379
CNS001FB
CNS00KAE
FR0042441
AQ050318
AZ691158
AZ68035
CNS00ZJY
CNS00EWB
CNS00EWB
CNS00EVG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CNS003BD
BF712092
BF618111
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CNS008X3
CNS003BB
BF617833
CNS034FO
CR4240
AZ205164
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CNS014DY
AZ689754
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CNS009CW
AZ528033
                                                                                                                                                                                                                                                                                                                                                                                                   DNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                     ALIGNMENTS
                              melanogaster"
                                                                                                                                                                                                                               segref@genoscope.cns.fr
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                AQ050318
AZ691158
AZ688035
AL097768
AL096003
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   AZ686379
AL060732
AL077628
AL129933
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          AL064091
BF712092
BF618111
AL104032
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  AL064089
BF617833
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            AL105023
AL069706
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      AZ689754
AZ679343
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 AL053618
AZ528033
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               AL227373 Tetraodon
C84240 C84240 Dict
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   C84240 C84240 Dict
AZ205164 SP_0100_A
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              AZ541840
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        AL052544 Drosophil
                                                                                                                                                                                                                                                                                                       Insecta;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Drosophil
Fugu rubr
nbxb0003d
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ENTJI38TR
ENTHQ15TR
ENTCX06TR
ENTTH92TR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          MI-P-E6-a
HVSMEC000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Drosophil
Drosophil
Drosophil
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ENTJU20TF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Drosophil
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Drosophil
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   HVSMEc00C
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ENTCB23TE
```

```
CNS00YWL/c
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             SOURCE
ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Вp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Вþ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  BASE COUNT
ORIGIN
                                                              FEATURES
                                                                                                                                                                                                                                                                                           COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                              REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        KEYWORDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                VERSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              20
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         맑
                                                                                                                                                                                                                                                                                                                                                                           TITLE
JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                       AUTHORS
                                   source
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           543
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        843
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      903
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             103
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  463
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                403
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         723
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    783
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           223
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            163
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CCAATATTCAATCTAGGTCTTGCAATTGGTGGGATACTAATTGTTATAGTTGGTTTAAGA 222
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TTTAATATATGGAATAATGCATTAAGCGATCTAGGACATGCTGTTAAAAAGCAGTGTTGCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TTTTTTCTTATCAATAATAGCATATTTCATAGCTATATCAATACTTGACAAATCATGGATA 402
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        AACTTAATAGGGGTTTTCGACGAAGTATATGGTTGGATACATTTCCTAGTCTCAGTATTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TTTTTTAWTAWAWWTWAAAWAATWAWWWWWWA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 AGACAGTATTTAAATCATACACTAAACGATA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      AATWAWATTTATAWATTAATATAWWTTWTAAATTWTTAATWTATTWWTTTAAATTATWTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CCGAGAGGTGCTGCTATTCCCGAGTTATTAGCGGTATTCTCGTTTTTACCATTCTATATA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     GCTGTTCTACTAATAATAGGTCATATTGCAATGTGGTATCTACACTTTGCTTCAGAGATT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    WWWTWWATWWWTAWAAWTATATATWWATATTATWWTWATTWTTTTTATTWTTTTAAWT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  AATCTTTATTCGTGGAGTAGAGTTAAAGGATCTTTAATCATATCCATGGGTGTATTTCTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   148;
                                                                                                        - Web: www.genoscope.cns.fr)

Determination of this BAC-end sequence was carried out as part of collaboration with the European Drosophila Genome Project (EDGP) - http://www.edgp.ebi.ac.uk - This Drosophila melanogaster BAC library (Dros BAC) was made by Alain Billaud at CEPH (Centre d'Etude du Polymorphisme Humain) with funding provided by a MRC project grant. The DNA was prepared from embryos by Alain Bucheton and Genevieve Payan. It has been constructed in the vector
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CNS00YWL LIUL DE DESCRIPTION SUR DESCRIPTION OF DES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              fly), gen
AL096927
                                                                                                                                                                                                                                                                                                                                             Submitted (23-JUL-1999) Genoscope - Centre BP 191 91006 EVRY cedex - FRANCE (E-mail :
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Plasmid Drosophila melanogaster
Eukaryota; Metazoa; Arthropoda; Tracheata; Hexapoda; Ins
Pterygota; Neoptera; Endopterygota; Diptera; Brachycera;
                                                                                                                                                                                                                                                                                                                                                                                                      Direct Submission
                                                                                                                                                                                                                                                                                                                                                                                                                                 Genoscope.
                                                                                                                                                                                                                                                                                                                                                                                                                                                           Muscomorpha; Ephydroidea; Drosophilidae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   AL096927.1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    fruit fly.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                419
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      genomic
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  /note="end : T7"
  ∕organism="Drosophila
                                                        Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GI:5608538
                                   .1101
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           8.9%;
32.7%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             91 c
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      survey sequence.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   70;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Score 49.6;
Pred. No. 0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          φ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           512
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 survey sequence SP6 end of rom Drosophila melanogaster
melanogaster"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          299
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 .031;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         DΒ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          rt
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   234;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          232
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Drosophila
                                                                                                                                                                                                                                                                                                                                          National de Sequencage
segref@genoscope.cns.fr
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          others
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           26-JUL-1999
end of BAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1101;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Gaps
                                                                                                                                                                                                                                                                                     part of a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   (fruit
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        604
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             462
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   664
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    724
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           282
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   844
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               904
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       162
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                0;
```

```
RESULT
CNS000D1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             REFERENCE
AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               á
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                õ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SOURCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ORIGIN
                                                                                                              FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                BASE COUNT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            KEYWORDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               VERSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    FOCUS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Matches
                                                                      source
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1040
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1100 HAWATATATANATAAWTTWMWWNWTATATATAATWMTAWTWTAWAAWWWNWTATTWAT 1041
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            166
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              920
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     106 AATATATGGAATAATGCATTAAGCGATCTAGGACATGCTGTTAAAAGCAGTGTTGCTCCA 165
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         860 TWWTTTTATAWWATWNWTYTTWTATTTTTTATWTWNATR 822
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     286
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Local
                                                                                          melanogaster genome using these BACs. For further information please see http://www.fruitfly.org The BDGP Drosophila melanogaster BAC library was prepared by Kazutoyo Osoegawa and Aaron Mammoser in Pieter de Jong's laboratory in the Department of Cancer Genetics at the Roswell Park Cancer Institute in Buffalo, NY. The library is named RPCI-98 and was constructed by partial EcoRI digestion of Drosophila DNA provided by the BDGP from the isogenic strain y2; cn bw sp, the same strain used for the BDGP's P1 and EST libraries. A more detailed description of the library and how to order individual BAC clones, the entire library, or filters for hybridization from the BACPAC Resource Center can be found at http://bacpac.med.buffalo.edu/drosophila_bac.htm.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TTCTTATCAATAATAGCATATTTCATAGCTATATCAATA 384
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TTAATAGGGGTTTTCGACGAAGTATATGGTTGGATACATTTCCTAGTCTCAGTATTGTTT 345
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CTTTATTCGTGGAGTAGAGTTAAAGGATCTTTAATCATATCCATGGGTGTATTTCTTAAC 285
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ATATTCAATCTAGGTCTTGCAATTGGTGGGATACTAATTGTTATAGTTGGTTTAAGAAAT 225
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ATTAATAWTATTWTWTWTWTATATWTWHWTAMATTWTANTATWAHTATATTAWATAAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              BP 191 91000 CON.

- Web : www.genoscope.cns.fr)

Determination of this BAC-end sequence was carried out as part of collaboration with the Berkeley Drosophila Genome Project (BDGP). The BDGP is constructing a physical map of the Drosophila for management of the Drosophila constructing a physical map of the Drosophila constructing a physical map of the Drosophila construction remarks a part of the Drosophila construction remarks a part of the Drosophila construction remarks a part of the Drosophila construction construct
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CSS 03-JUN-1999 DNA GSS 03-JUN-1999 Drosophila melanogaster genome survey sequence TET3 end of BAC # BACROLTIG of RPCI-98 library from Drosophila melanogaster (fruit fly). Genomic survey securence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ₽P
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Eukaryota; Metazoa; Arthropoda; Tracheata; Hexapoda; Insecta; Pterygota; Neoptera; Endopterygota; Diptera; Brachycera; Muscomorpha; Ephydroidea; Drosophilidae; Drosophila.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               fly), genomic survey sequence. AL065414
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Submitted
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Direct Submission
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Genoscope.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Muscomorpha; Ephydro 1 (bases 1 to 1101)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Drosophila melanogaster
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               AL065414.1 GI:4938827
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CNS000D1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         fruit fly.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       mitted (02-JUN-1999) Genoscope - Centre 191 91006 EVRY cedex - FRANCE (E-mail :
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        /plasmid="pBeloBAC11"
/db_xref="taxon:7227"
/clone_lib="DrosBAC"
/clone="BACN01613"
/note="end : SP6"
a 119 c 129 g :
/organism="Drosophila
/db_xref="taxon:7227"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           8.5%;
35.1%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1101 bp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        46;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Score 47.4; DB Pred. No. 0.11;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Mismatches 135;
                               melanogaster"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                248
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           DB
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                đ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Centre National de Sequencage
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           229;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                181 others
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           segref@genoscope.cns.fr
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                part of a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     981
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    0
```

```
RESULT 4
CNS0039G/c
                                                                                                                                                                                                                                                                                                                                                                                                    SOURCE
ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                         ACCESSION
VERSION
KEYWORDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          QΥ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            δõ
                                                                                                                                                                                                  COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         д
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ρy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Ъ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           δõ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Вb
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           δõ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    DЬ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Вp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        BASE COUNT
ORIGIN
                                                                                                                                                                                                                                                                                                                        REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       LOCUS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Query Match
Best Local :
                                                                                                                                                                                                                                                                                 TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Matches
                                                                                                                                                                                                                                                          JOURNAL
                                                                                                                                                                                                                                                                                                  AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1067
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1007
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                441
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               381
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       947
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                321
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      887
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             261
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     827
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              201
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       767
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             141
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      707
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       647
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            81
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           BP 191 91006 EVRY cedex ......
BP 191 91006 EVRY cedex ......
BP 191 91006 EVRY cedex ......

- Web: www.genoscope.cns.fr)
Determination of this BAC-end sequence was carried out as part of the beartine with the Berkeley Drosophila Genome Project (BDGP).

The BDGP is constructing a physical map of the Drosophila melanogaster genome using these BACs. For further information please see http://www.fruitfly.org.The BDGP Drosophila melanogaster BAC library was prepared by Kazutoyo Osoegawa and Aaron Mammoser in Pleter de Jong's laboratory in the Department of Cannor Genetics at the Roswell Park Cancer Institute in Buffalo,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       KAKAKDKDKAKKKADADDRKDKKAKARKDDK 1097
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TCTACACTTTGCTTCAGAGATTCCGAGAGGT 471
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ACATTTCCTAGTCTCAGTATTGTTTTTCTTATCAATAATAGCATATTTCATAGCTATATC 380
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CATATCCATGGGTGTATTTCTTAACTTAATAGGGGGTTTTCGACGAAGTATATGGTTGGAT 320
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TGCTGTTAAAAAGCAGTGTTGCTCCAATATTCAATCTAGGTCTTGCAATTGGTGGGATACT 200
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    KKRWKDDKDTKKKKTTTTTKKAATDKWKWRKKKATAGAWDWDDARRGRGGRW 766
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GRDRKGDKKKRWRARWRKGKKKKTKDKDDDDGKRWGRAKAKADAAKAKDDADAADAAWA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             AATACTTGACAAATCATGGATAGCTGTTCTACTAATAATAGGTCATATTGCAATGTGGTA 440
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    GADKKWKWDDDDTAKDDWTKKDTDWTAGATAGWDDDKAKDGDWKRGTDWRTWKRTWKGWG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TRGAKDKADKKKAGRKRKWWTRKTWKRDTADWKAWAAWRWRWRRDRKDRRGRRDRWRRWR 886
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            AATTGTTATAGTTGGTTTAAGAAATCTTTATTCGTGGAGTAGAGTTAAAGGATCTTTAAT 260
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     GDKRRRTGARGDKDKTGKKKKTGDKRDKGGGDGDRGDGGAGGGDRDRDARARRARWDTKD 826
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          AGCTATCTCTATGTCGTCATGGTTTAATATATATGGAATAATGCATTAAGCGATCTAGGACA 140
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   KWGKAKRAATDDTAWTATTWKKTAKKDAGKAAKWKADRTKAWKGAKGAGARGKATAKARA 706
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       RKGDKGRKTAGRAGDGKDKKKGKDKDRTDDAKATDGKDTWRDTTDTAKRRRKRRRRAGR 1006
                                                                                                                                                                                                                                                                                                      Drosophila melanogaster
Eukaryota; Metazoa; Arthropoda; Tracheata; Hexapoda; Insecta;
Pterygota; Neoptera; Endopterygota; Diptera; Brachycera;
Muscomorpha; Ephydroidea; Drosophilidae; Drosophila.
1 (bases 1 to 1101)
                                                                                                                                                                                                                              Direct Submission
Submitted (02-JUN-1999) Genoscope - Centre National de Sequencage
BP 191 91006 EVRY cedex - FRANCE (E-mail : seqref@genoscope.cns.f.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 DIOSOPHILA melanogaster genome survey sequence TET3 end of BAC # BACRO8K1O of RPCI-98 library from Drosophila melanogaster (fruit fly) reported environments
                                                                                                                                                                                                                                                                                                                                                                                                                                               GSS
                                                                                                                                                                                                                                                                                                  Genoscope
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  AL063921.1
                                                                                                                                                                                                                                                                                                                                                                                                                            fruit fly.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            280
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         genomic survey sequence.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         D)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         /note="end : TET3"
1 104 c 123 g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                /clone_lib="RPCI-98"
/clone="BACR01J16"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  GI:4941778
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     8.4%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    203;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Score 46.6;
Pred. No. 0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            211
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       DB
.17;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         c+
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    185;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          229;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         383 others
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Length 1101;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    0,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    946
                                                                                                                                                                                                                            i.fr
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    0
```

```
ACCESSION
VERSION
KEYWORDS
                                                                      REFERENCE
AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     BASE COUNT
ORIGIN
                                                                                                                                                                                                                                                                                                                                       RESULT 5
CNS0187R/c
                                                                                                                                                                                      SOURCE
                                                                                                                                                                                                                                                                                                   DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Query Match
Best Local
                                                                                                                                                                    ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Matches
                                   JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    source
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  937
                                                                                                                                                                                                                                                                                                                                                                                                                 517
                                                                                                                                                                                                                                                                                                                                                                                                                                                      519
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            577
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             459
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  637
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       399
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             697
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                339
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     757
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          279
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               817
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 219
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        877
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             159
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            DWGDRAGKRGGARKRRDRKRADDKRDAADDRDDAATWTTWTTTTTRDTDDWKWKTDTWTR 758
                                                                                                                                                                                                                                                                                                                                                                                                                                                  TATAAGACAGTATTTTAAATCATACACTAAA 549
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           GATTCCGAGAGGTGCTGCTATTCCCGAGTTATTAGCGGTATTCTCGTTTTTTACCATTCTA 518
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ATTGTTTTTCTTATCAATAATAGCATATTTCATAGCTATATCAATACTTGACAAATCATG 398
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     WAADRTWDRDDDDRDRAGTAGRKWRRTWKRRWKRRDTRWDDADADDTARDDRRRRGDDG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TCTTAACTTAATAGGGGTTTTCGACGAAGTATATGGTTGGATACATTTCCTAGTCTCAGT 338
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      WGDATWAWAATDWWWWGWADADWWTWDAAADDWWADDRWDAWAKWDDAWAWGARTADRR 818
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TGCTCCAATATTCAATCTAGGTCTTGCAATTGGTGGGATACTAATTGTTATAGTTTGGTTT 218
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                WDWDKDWKWDGAKDRKADDDDGAGDKDDDGKGKDADDDTDGTKDDDDKDKWDDWDKAKGT 878
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ATGGTTTAATATATGGAATAATGCATTAAGCGATCTAGGACATGCTGTTAAAAAGCAGTGT 158
                                                                                                                                                                                                                                                                                                                                                                                                                 WITTAAWWWAAWWIATWAAWTAAAWAAAAA 487
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TARAAWDWWTWKAWDWAKWDWKTRADRWDRWAADTWTDARKADRDWAKARAWRARRDRAR 578
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GATAGCTGTTCTACTAATAATAGGTCATATTGCAATGTGGTATCTACACTTTGCTTCAGA 458
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 AAGAAATCTTTATTCGTGGAGTAGAGTTAAAAGGATCTTTAATCATATCCATGGGTGTATT 278
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ADAGKGKKTGRKRRRDRATWDRTDAWWADAAWWTTTDTDTDDWDKRDRRRKGARRRRRT 638
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           l Similarity
72; Conser
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      EcoRI digestion of Drosophila DNA provided by the BDGP from the isogenic strain y2: cn bw sp, the same strain used for the BDGP's Pl and EST libraries. A more detailed description of the library and how to order individual BAC clones, the entire library, or filters for hybridization from the BACPAC Resource Center can be found at http://bacpac.med.buffalo.edu/drosophila_bac.htm.
           Direct Submission
Submitted (23-JUL-1999)
BP 191 91006 EVRY cedex
                                                                                                         Eukaryota; Metazoa; Arthropoda; Tracheata; Hexapoda; Ins
Pterygota; Neoptera; Endopterygota; Diptera; Brachycera;
Muscomorpha; Ephydroidea; Drosophilidae; Drosophila.
                                                                                                                                                                                                                                                        Drosophila melanogaster genome BACN04E04 of DrosBAC library fifty), genomic survey sequence.
                                                                                                                                                                                                       GSS.
                                                                                                                                                                                                                                           fly), genomic
AL108993
                                                                                                                                                                  Plasmid
                                                                                                                                                                                                                           AL108993.1
                                                                                                                                                                                                                                                                                                                     CNS0187R
                                                                                          (bases 1 to
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           201
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Conservative
                                                                                                                                                              Drosophila melanogaster
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        /organism="Drosophila
/db_xref="taxon:7227"
/clone_lib="RPCI-98"
/clone="BACK08K10"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          /note="end :
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Location/Qualifiers
                                                                                                                                                                                                                         GI:5629297
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         8.4%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         64 c
                                                                                                                                                                                                                                                                                                                   878 bp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             196;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Score 46.6; DI
Pred. No. 0.17,
96; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TET3"
131 g
           Genoscope
                                                                                                                                                                                                                                                                                                                     DNA
                                                                                                                                                                                                                                                                                from
                                                                                                                                                                                                                                                                                                 survey sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 melanogaster"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         202
e - Centre
(E-mail :
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             .17;
                                                                                                                                                                                                                                                                                Drosophila
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         d
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         183;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              229;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         503
                               National de Sequencage
             segref@genoscope.cns.fr
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Length
                                                                                                                                                                                                                                                                            ce SP6 end of
melanogaster
                                                                                                                                                                                                                                                                                                 SP6
                                                                                                                                                                                                                                                                                              26-JUL-1999
end of BAC
                                                                                                                                                Insecta;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Gaps
                                                                                                                                                                                                                                                                              (fruit
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     869
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           0
```

밁 γo В Qy Ъ δÃ В δÃ 망 δÃ В γ 밁 δ Ъ QΥ

```
RESULT 6
AU086529/c
                                                                                                                                                                                                                                            VERSION
KEYWORDS
                                                                      COMMENT
                                                                                                                                                                        REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                      Вþ
                                                                                                                                                                                                                                                                                                                                                                                                                                                     γQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Вb
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Ωy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             QΥ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    DЪ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  BASE COUNT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   COMMENT
                                                                                                                                                                                                                              SOURCE
                                                                                                                                                                                                                                                                                                                 DEFINITION
                                                                                                                                                                                                                                                                                                                                     Locus
                                                                                                                                                                                                                                                                                 ACCESSION
                                                                                    JOURNAL
MEDLINE
                                                                                                                                       AUTHORS
TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Query Match
Best Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Matches
                                                                                                                                                                                                          ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          source
                                                                                                                                                                                                                                                                                                                                                                                                                                                         517
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           113
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            457
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              173
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                397
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   233
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   337
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    293
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      277
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        353
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           217
                                                                                                                                                                                                                                                                                                                                                                                                                      53
                                                                                                                                                                                                                                                                                                                                                                                                                      TTGAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                         TATAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           WAYAWTCAGKGCAAAGWWKWWTTTTTWWTWKKKKCYWTKKKWWTCCWWGCWTWTCYTKT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GTATTGTTTTTCTTATCAATAATAGCATATTTCATAGCTATATCAATACTTGACAAATCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  AWTTYTWTCCKWTTYGWKTTKWKWKWTGYTKTTKKTTKKTTTKTTKKTYKGYGWAWGYG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TKCWTAYKAYTTTWTTTWTGTAMATTKTWTTTKKWTYWTKYTTYKTTTKKTYKWWWTCY 294
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GAGATTCCGAGAGGTGCTGCTATTCCCGAGTTATTAGCGGTATTCTCGTTTTTACCATTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TGGATAGCTGTTCTACTAATAATAGGTCATATTGCAATGTGGTATCTACACTTTGCTTCA 456
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 YWKKTWWWTYTTTTKKCYWWWWCYTWWWWTTKWWWTTKWWWTTYAAYKWWWTWAWAYAAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TTTCTTAACTTAATAGGGGTTTTCGACGAAGTATATGGTTGGATACATTTCCTAGTCTCA 336
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TTAAGAAATCTTTATTCGTGGAGTAGAGTTAAAGGATCTTTAATCATATCCATGGGTGTA 276
                                                                                                                                                                                                                                                                                          AU086529 500 bp mRNA
AU086529 Sugano Malaria cDNA library
clone XPFn2716, mRNA sequence.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             69;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       - Web: www.genoscope.cns.fr)

Determination of this BAC-end Sequence was carried out as part of a collaboration with the European Drosophila Genome Project (EDGP) - http://www.edgp.ebi.ac.uk - This Drosophila melanogaster BAC library (Dros BAC) was made by Alain Billaud at CEPH (Centre d'Etude du Polymorphisme Humain) with funding provided by a MRC project grant. The DNA was prepared from embryos by Alain Bucheton and Genevieve Payan. It has been constructed in the vector
The University of Tokyo, Department of Parasitology 4-6-1, Shirokanedai, Minatoku, Tokyo 108-8639, Japan Tel: 81-3-5449-5378
                                                                                                     Watanabe, J., Sasaki, M., Suzuki, Y. and Sugano, S. FULL. malaria: a database for a full-length enriched from human malaria parasite, Plasmodium falciparum Nucleic Acids Res. 29 (1), 70-71 (2001)
                                                                                    Nucleic Acids
20574754
                                                                                                                                                                                                            malaria parasite
Plasmodium falci
                                                                    Contact: Junichi Watanabe
                                                                                                                                                                                                                                                             AU086529.1
                                                                                                                                                                                                                                                                                 AU086529
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          pBeloBAC11
                                                  Institute of Medical Science
                                                                                                                                                                                        Eukaryota; Alveolata; Apicomplexa;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Similarity
                                                                                                                                                                        (bases 1 to 500)
                                                                                                                                                                                                                                                                                                                                                                                                                      49
                                                                                                                                                                                                                                                                                                                                                                                                                                                         521
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    279
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               /clone_lib="DrosBAC"
/clone="BACN04E04"
/note="end : SP6"
a 132 c 120 g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                /organism="Drosophila
/plasmid="pBeloBAC11"
/db_xref="taxon:7227"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Location/Qualifiers
                                                                                                                                                                                                          falciparum
                                                                                                                                                                                                                                                              GI:12388670
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          .878
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            8.3%;
                                                                                                                                                                                                                          falciparum
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             99;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Score 46.2; DI
Pred. No. 0.21
99; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 182 t
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      melanogaster
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             .21;
                                                                                                                                                                                          Haemosporida;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            DB
                                                                                                                                                                                                                                                                                                               Plasmodium
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            229;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  165
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Length
                                                                                                                                                                                                                                                                                                               falciparum
                                                                                                                                                                                            Plasmodium
                                                                                                                                                                                                                                                                                                                                27-JAN-2001
                                                                                                                                       cDNA library
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Gaps
                                                                                                                                                                                                                                                                                                               CDNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           54
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          114
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    234
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              of a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          0
```

```
SOURCE
ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          RESULT 7
BF616219/c
LOCUS
                                                                                                                                                                                                                                                                                                                                                                                                                                                              ACCESSION
VERSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                망
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                õ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Š
                                                                                                                                                                      COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                              KEYWORDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       BASE COUNT
                                                                                                                                                                                                                                                                                                                             REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            FEATURES
                                                                                                                                                                                                                                TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Query Match
Best Local
                                                                                                                                                                                            JOURNAL
                                                                                                                                                                                                                                                                                                           AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          source
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  293
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            353
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     413
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         355
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         233 TAATCAT 227
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  GTTTTCGACGAAGTATATGGTTGGATACATTTCCTAGTCTCAGTATTGTTTTTTCTTATCA 354
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    GCTATTCCCGGAGTTATTAGCGGTATTCTCGTTTTTACCATTCTATATAAGACAGTATTTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TTATTATCATTATTAATGTTAATGCTTTTTTTTGCATTTGAATATACAAGTGATGAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ATAATAGCATATTTCATAGCTATATCAATACTTGACAAATCATGGATAGCTGTTCTACTA 414
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             AAATCAT 541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ATAATAGGTCATATTGCAATGTGGTATCTACACTTTGCTTCAGAGATTCCGAGAGGTGCT 474
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GTGTTTTTTGAAAAATATGAATTGGCATAAGAATTTATAAAATTATTATTATTATCATTATTA 414
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      121;
                                                                                                               Clemson University
100 Jordan Hall, C
                                                                                                                                                                                                                                                              Wing,R., Close,T.J., Kleinhofs,A., Wise,R., Begum,D., Frisch,D.,Y., Anderson,H., Dale,J., Henry,D., Kernodle,S., Palmer,M., Ru,T., Saski,C., Schwartzbeck,J., Simmons,J., Choi,D.W., Main,D.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    HVSMEC0004F09f Hordeum vulgare seedling shoot EST library HVcDNA0003 (Etiolated and unstressed) Hordeum vulgare cDNA clone HVSMEC0004F09f, mRNA sequence.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Email: jwatanab@manage.ims.u-tokyo.ac.jp
Suzuki,Y., Yoshitomo-Nakagawa,K., Maruyama,K., Suyama,A. and Suç
,S. Construction and characterization of a full length-enriched
a 5'-end-enriched cDNA library Gene 200 (1-2), 149-156 (1997).
                                   Email: rwing@clemson.edu
Seq primer: AATTAACCCTCACTAAAGGG
                                                                                                                                                  Clemson University Genomics
                                                                                                                                                                                    Development of a genetically and for barley genomics Unpublished (2000)
                                                                                                                                                                        Contact: Wing RA
                                                                                                                                                                                                                                                                                                                                                               Hordeum vulgare
Eukaryota; Viridiplantae; Embryophyta; Tracheophyta; Spermatophyta;
Magnoliophyta; Lillopsida; Poales; Poaceae; Pooideae; Triticeae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                BF616219.1 GI:11879953
                                                                                                                                                                                                                                                                                                                                                                                                                          barley.
                                                                                                                                                                                                                                                                                                                             (bases 1 to 792)
                                                                         864 656 7288
864 656 4293
quality sequence quality sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         þ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     /db_xref="taxon:5833"
/clone="xPFn2716"
/clone_11b="Sugano Malaria cDNA library"
/clone_11b="Sugano Malaria cDNA library"
/dev_stage="erythrocytic stage"
/dev_stage="erythrocytic stage"
/dev_stage="erythrocytic stage"
/dev_stage="erythrocytic stage"
/dev_stage="erythrocytic stage"
/dev_stage="erythrocytic stage"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   /organism="Plasmodium
/strain="3D7"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      8.28;
                                                                                                               Clemson,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        0
 start: 75
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Score 45.4; DI Pred. No. 0.3;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Mismatches 126; Indels
                                                                                                                 SS
                                                                                                                                                    Institute
                                                                                                             29634, USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    falciparum"
                                                                                                                                                                                                                              physically
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            DB 107;
                                                                                                                                                                                                                            anchored
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              500;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      0,
                                                                                                                                                                                                                              EST resource
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          294
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          l Sugano
ched and
                                                                                                                                                                                                                                                                                       Rambo
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      0
```

•>

```
KEYWORDS
SOURCE
                                                                                                                            RESULT
CNS0106X
LOCUS
                                                              ACCESSION
VERSION
                                                                                                                                                                                                                                                                     δÃ
                                                                                                                                                                                                                                                                                                                                                                                                    밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                      망
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                δÃ
                                                                                                                                                                                             dd
                                                                                                                                                                                                                     Š
                                                                                                                                                                                                                                               В
                                                                                                                                                                                                                                                                                                В
                                                                                                                                                                                                                                                                                                                       Š
                                                                                                                                                                                                                                                                                                                                                  В
                                                                                                                                                                                                                                                                                                                                                                          Š
                                                                                                                                                                                                                                                                                                                                                                                                                         δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         망
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Ъ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  δÃ
                                                                                                                  DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         BASE COUNT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Query
Best I
                            ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      source
                                                                                                                                                                                                                                                                                                                                                                                                                                                       431
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         491
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            611
                                                                                                                                                                                                                     540
                                                                                                                                                                                                                                                                                                                                                    311
                                                                                                                                                                                                                                                                                                                                                                                                                              300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     64
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Match
Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      4
                                                                                                                                                                                               TAACAAAAA 123
                                                                                                                                                                                                                                                                                                                AGGTCATATTGCAATGTGGTATCTACACTTTGCTTCAGAGATTCCGAGAGGTGCTGCTAT
                                                                                                                                                                                                                                                                                                                                                  AGCATATTTCATAGCTATATCAATACTTGACAAATCATGGATAGCTGTTCTACTAATAAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                      TATATGTATATTATAAATATTAATTAAATTGTATTTTTTATATTAAATTATAAAAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CTTGCAATTGGTGGGATACTAATTGTTATAGTTGGTTTAAGAAATCTTTATTCGTGGAGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GCATTAAGCGATCTAGGACATGCTGTTAAAAGCAGTGTTGCTCCAATATTCAATCTAGGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TTAACAATGATCGCATTAGCTATCTCTATGTCGTCATGGTTTAATA---TATGGAATAAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ATACACTAA 548
                                                                                                                                                                                                                                               TINTICTITCTITATAATTTTTTTTTTTATAAACCICTICTAATTATATTATTATTA
                                                                                                                                                                                                                                                                       TCCCGAGTTATTAGCGGTATTCTCGTTTTTACCATTCTATATAAGACAGTATTTTAAATC
                                                                                                                                                                                                                                                                                                                                                                                                    CGACGAAGTATATGGTTGGATACATTTCCTAGTCTCAGTATTGTTTTTCTTATCAATAAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              GSS.
fruit fly.
Plasmid Drosophila melanogaster
Plasmid Drosophila melanogaster
                                                                          CNS0106X 1101 bp DNA GSS 26-JUL-199 Drosophila melanogaster genome survey sequence T7 end of BAC BACNO3K20 of DrosBAC library from Drosophila melanogaster (fly), genomic survey sequence.

AL098595
Eukaryota; Metazoa; Arthropoda; Tracheata; Pterygota; Neoptera; Endopterygota; Dipter
                                                                AL098595.1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           380
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 /tissue_type="Seedling shoot"
/lab_host="TJC121"
/note="Vector: lambdaZAP; Site
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          /clone_lib="Hordeum vulgare seedling HVcDNA0003 (Etiolated and unstressed)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   /clone="HVSMEc0004F09f"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                /db_xref~"taxon:4513"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            /cultivar-"Morex"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        /organism="Hordeum vulgare"
                                                                GI:5610206
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         8.2%;
45.0%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         26 c
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Score 45.4; DB Pred. No. 0.32; 0; Mismatches 2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               0,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        24 g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         lambdaZAP; Site_1: EcoR1;
24 g    351 t    11 others
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       DB 150;
Diptera;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               298;
             Hexapoda;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         others
  Brachycera;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               shoot
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Site_2:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             4;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            612
                                                                                                                                                                                                                                                                                                  192
                                                                                                                                                                                                                                                                                                                                                  252
                                                                                                                                                                                                                                                                                                                                                                           419
                                                                                                                                                                                                                                                                                                                                                                                                                             359
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               299
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          552
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  120
                                                                                                                                                                                                                                                                                                                                                                                                                                                      372
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             2
```

```
RESULT
CNS016LI
 VERSION
KEYWORDS
                                                                                                                                                                                                                                                                                                                                                                                                 Qy
                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                                Ş
                                                                                                                                                                                                                                                                                      В
                                                                                                                                                                                                                                                                                                                        Qy
                                                                                                                                                                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                                                                                                                                                                                                         밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     멍
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               BASE COUNT
ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           COMMENT
                                     ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          REFERENCE
                                                                                               DEFINITION
                                                                                                                   Locus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Query Match
Best Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  source
                                                                                                                                                                                                          1070 KKDDADKAKKAKAKAKAKAKAKAKAKAK 1098
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            710
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  650 ATATAKATKKKARKDKDTAKDAWKWDKATKAKAKKKAAKAKAKAAAKTATGKDARKAKAK 709
                                                                                                                                                                                                                                                                                                                                                                  950
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             204
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                770
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      144
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                85
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       25 ATGGATATGATAATATTTATTCTCAGCTTTTCTTTCCCATTAACAATGATCGCATTAGCT
                                                                                                                                                                                                                                                                                                          TCAATACTTGACAAATCATGGATAGCTGTTCTACTAATAATAGGTCATATTGCAATGTGG : |:| : | :| |:| : |:| : : ::::::
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   KKAKKDKAAAKAKADAAGDAKAKRRAAGDKDKAKADAKAAKKAKAKDDDDAKAATKAKKA 889
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TGTTAAAAGCAGTGTTGCTCCAATATTCAATCTAGGTCTTGCAATTGGTGGGATACTAAT 203
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ATCTCTATGTCGTCATGGTT-TAATATATGGAATAATGCATTAAGCGATCTAGGACATGC 143
                                                                                                                                                                                                                                                TATCTACACTTTGCTTCAGAGATTCCGAG 467
                                                                                                                                                                                                                                                                                    DAKAKAKADDAAKAKABAKAADADADAKAKAAKRAAKABADADAKAKABDDKDKDA 1069
                                                                                                                                                                                                                                                                                                                                                                  ATACATTTCCTAGTCTCAGTATTGTTTTTCTTATCAATAATAGCATATTTCATAGCTATA 378
                                                                                                                                                                                                                                                                                                                                                                                                                                         ATCATATCCATGGGTGTATTTCTTAACTTAATAGGGGTTTTCGACGAAGTATATGGTTGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TGTT-----ATAGTTGGTTTAAGAAATCTTTATTCGTGGAGTAGAGTTAAAGGATCTTTA 258
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              KAKAAKAADDADADAKAAADAKAKADAADADDGRGDGKKKRAKDRKKKKKKDKAWGDK
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          AKAKATKRAKARAWDTATWTATAADAAADKGAKDKAKAKAKADARDKRRWDAKKDKRKRA 769
fly), genomic s
AL106896
AL106896.1 GI:
GSS.
                                   CNS016LI 1101 bp DNA Drosophila melanogaster genome survey sequence T7 end BACN16D22 of DrosBAC library from Drosophila melanogas fly), genomic survey sequence.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  d'Etude du Polymorphisme Humain) with funding provided by a MRC project grant. The DNA was prepared from embryos by Alain Bucheton and Genevieve Payan. It has been constructed in the vector
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         collaboration with the European Drosophila Genome Project (EDC http://www.edgp.ebi.ac.uk - This Drosophila melanogaster BAC library (Dros BAC) was made by Alain Billaud at CEPH (Centre
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Submitted (23-JUL-1999) Genoscope - Centre National de Sequencage BP 191 91006 EVRY cedex - FRANCE (E-mail : segref@genoscope.cns.fi

    Web: www.genoscope.cns.fr)
    Determination of this BAC-end sequence was carried out as part of

                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Genoscope.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Muscomorpha; E
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        pBeloBAC11.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 258
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Conservative 198; Mismatches 165;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Submission
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             /clone_lib="DrosBAC"
/clone="BACN03K20"
/note="end : T7"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        /organism="Drosophila
/plasmid="pBeloBAC11"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          /db_xref="taxon:7227"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Location/Qualifiers
                   GI:5624374
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      . 1101
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 8.2%;
17.8%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Ephydroidea; Drosophilidae; Drosophila.
co 1101)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               107
                                                                       library from Drosophila melanogaster (fruit
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Score 45.4; DB Pred. No. 0.34;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              melanogaster"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               175
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   DB 229;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               r
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               501
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           segref@genoscope.cns.fr
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Length 1101;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               others
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             6,
                                                                                             of BAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Gaps
                                                                                                                                                                                                                                                                                                                                                              1009
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   (EDGP)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              829
                                                                                                                                                                                                                                                                                                                                                                                                                                         949
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               318
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       84
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             N
```

```
RESULT 1
AQ946120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      REFERENCE
AUTHORS
TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            QΥ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ρ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 DЬ
                                                                                                                                                                                                                                                                                                                                                                                                                                           DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               망
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               뫄
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  80
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       FEATURES
                                                                                                                                             REFERENCE
                                                                                                                                                                                                                                                                                SOURCE
                                                                                                                                                                                                                                                                                                           KEYWORDS
                                                                                                                                                                                                                                                                                                                                                 VERSION
                                                                                                                                                                                                                                                                                                                                                                             ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     BASE COUNT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                SOURCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    LOCUS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Best Local
             TITLE
                                                                                                              AUTHORS
                                                                                                                                                                                                                                             ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Query Match
Best Local :
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1015
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     source
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 407
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  955
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         347
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  895
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     835
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    775
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   287
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            227 TTTATTCGTGGAGTAGAGTTAAAGGATCTTTAATCATATCCATGGGTGTATTTCTTAACT 286
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               167 TATTCAATCTAGGTCTTGCAATTGGTGGGATACTAATTGTTATAGTTGGTTTAAGAAATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           WATWATATTAWTWAWAWWTAWAWWAWAATTATWTWTWATTATDWRTTTASTATWTTTDTW
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TAATAGGGGTTTTCGACGAAGTATATGGTTGGATACATTTCCTAGTCTCAGTATTGTTTT 346
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            RWAWTADATTAWDAAATRTAAATWTWTTKWTTKWKTTTKWTTTKTAKTKAKAGR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TTCTACTAATAATAGGTCATATTGCAATGTGGTATCTACACTTTGCTTCAGAGA 460
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TWATAWRAKAWRWATWDWAWAWRATAWDTATWAATADATTWATATAAAWWTWWDTATTGW
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TCTTATCAATAATAGCATATTTCATAGCTATATCAATACTTGACAAATCATGGATAGCTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          AWTATAATTAWAATWWTATTAWTATAWWATAWTWWWWTRTAWWWTDWTWWWWATTAKTT 894
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TITATWITTTAKDITTITTTTWATATTTWITWITDATWITTITTTWAWTATATTTTW 834
                                                                                                                                                                                                                                                                                                                                                                  AU946120 641 bp DNA GSS 27-JAN-2000
Sheared DNA-46J23.TR Sheared DNA Trypanosoma brucei genomic clone
Sheared DNA-46J23, DNA sequence.
El-Sayed,N., Zhao,S., Zhao,H., Gill,S., Suh,E., Malek,J., Fujii,C. Gerrard,C., Leech,V., de Jong,P., Ullu,E., Melville,S., Donelson,J., Fraser,C. and Adams,M.

Determination of clone end sequences from Trypanosoma brucei GUTat
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    90;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Web: www.genoscope.cns.fr)
Determination of this BAC-end sequence was carried out as part collaboration with the European Drosophila Genome Project (EDC http://www.edgp.ebi.ac.uk - This Drosophila melanogaster BAC library (Dros BAC) was made by Alain Billaud at CEPH (Centre Library (Dros BAC) was made by Alain Billaud at CEPH (Centre Library (Dros BAC) was made by Alain Billaud at CEPH (Centre Library (Dros BAC) was made by Alain Billaud at CEPH (Centre Library (Dros BAC) was made by Alain Billaud at CEPH (Centre Library (Dros BAC) was made by Alain Billaud at CEPH (Centre Library (Dros BAC) was made by Alain Billaud at CEPH (Centre Library (Dros BAC) was made by Alain Billaud at CEPH (Centre Library (Dros BAC) was made by Alain Billaud at CEPH (Centre Library (Dros BAC) was made by Alain Billaud at CEPH (Centre Library (Dros BAC) was made by Alain Billaud at CEPH (Centre Library (Dros BAC) was made by Alain Billaud at CEPH (Centre Library (Dros BAC) was made by Alain Billaud at CEPH (Centre Library (Dros BAC) was made by Alain Billaud at CEPH (Centre Library (Dros BAC) was made by Alain Billaud at CEPH (Centre Library (Dros BAC) was made by Alain Billaud at CEPH (Centre Library (Dros BAC) was made by Alain Billaud at CEPH (Centre Library (Dros BAC) was made by Alain Billaud at CEPH (Centre Library (Dros BAC) was made by Alain Billaud at CEPH (Centre Library (Dros BAC) was made by Alain Billaud at CEPH (Centre Library (Dros BAC) was made by Alain Billaud (Dros BAC) w
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Plasmid Drosophila melanogaster
Eukaryota; Metazoa; Arthropoda; Tracheata; Hexapoda; Ins
Pterygota; Neoptera; Endopterygota; Diptera; Brachycera;
Muscomorpha; Ephydroidea; Drosophilidae; Drosophila.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 d'Etude du Polymorphisme Humain) with funding provided by a MRC project grant. The DNA was prepared from embryos by Alain Bucheton
                                                                                                                                                                                                                                          Trypanosoma brucei
                                                                                                                                                                                                                                                                                                                                              AQ946120.1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Submitted (23-JUL-1999) Genoscope - Centre National de Sequencage BP 191 91006 EVRY cedex - FRANCE (E-mail : segref@genoscope.cns.fi
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Genoscope.
Direct Submission
                                                                                                                                                                        Trypanosoma
                                                                                                                                                                                                Eukaryota; Euglenozoa; Kinetoplastida; Trypanosomatidae,
                                                                                                                                                                                                                                                                         Trypanosoma brucei.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          pBeloBAC11.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            fruit fly.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       (bases 1 to 1101)
                                                                                                                                             (bases 1 to 641)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Genevieve Payan. It has been constructed in the vector
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        203
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                /clone="BACN16D22"
/note="end : T7"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  /db_xref="taxon:7227"
/clone_lib="DrosBAC"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   /organism="Drosophila
/plasmid="pBeloBAC11"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                              GI:6769385
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               8.1%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    68;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Score 45.2; DE Pred. No. 0.38;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              84 g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  melanogaster"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 158
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 đ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              DB 229;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                136; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 436
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    segref@genoscope.cns.fr
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 others
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1101;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             0,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1068
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Insecta;
                                                                    Donelson, J
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Gaps
                                                                                                          Fujii,C.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                (EDGP)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         406
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           954
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   of.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ρ
```

```
Š
                                                                                                                                       망
                                                                                                                                                                    ş
                                                                                                                                                                                                                                     Q
                                                                                                                                                                                                                                                                                                                                                                              Q
RESULT 11
CNS013M1/c
                                                                    밁
                                                                                                                                                                                                          B
                                                                                                                                                                                                                                                                             밁
                                                                                                                                                                                                                                                                                                           Ş
                                                                                                                                                                                                                                                                                                                                                В
                                                                                                                                                                                                                                                                                                                                                                                                                    В
                                                                                                                                                                                                                                                                                                                                                                                                                                                   Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               BASE COUNT
ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Query Match
Best Local s
Matches 188
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              source
                                                                  372
                                                                                                                                         375
                                                                                                                                                                                                                                            252
                                                                                                                                                                                                                                                                                                                 193
                                                                                                                                                                                                                                                                                                                                                 195
                                                                                                                                                                                                                                                                                                                                                                                    133
                                                                                                                                                                                                                                                                                                                                                                                                                      135
                                                                                                                                                                                                                                                                                                                                                                                                                                                       73
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       75
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         13
                                                                                                   AGCTATATCAATACTTGACAAATCATGGATAGCTGTTCTACTAATAATA 420
                                                                                                                                                                        TGGTTGGATACATTTCCTAGTCTCAGTATTGTTTTTCTTATCAATAATAGCATATTTCAT 371
                                                                                                                                                                                                                                         ATCTTTAATCATATCCATGGGTGTATTTCTTAACTTAATAGGGGTTTTCGACGAAGTATA 311
                                                                                                                                                                                                                                                                           GGGATACTAATTGTTATAGTTGGTTTAAGAAATCTTTATTCGTGGAGTAGAGTTA-AAGG
                                                                                                                                                                                                                                                                                                                                                CTAGGACATGCTGTTAAAAAGCAGTGTTGCTCCAATATTCAATCTAGGTCTTGCAATTGGT 192
                                                                                                                                                                                                                                                                                                                                                                                                                  ATCGCATTAGCTATCTCTATGTCGTCATGGTTTAATATATGGAATAATGCATTAAGCGAT 132
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Email: nelsayed@tigr.org
Clones are derived from the Trypanosoma brucei GUTat 10.1 sheared
DNA library constructed at TIGR. Clones will be available for
distribution through ATCC. Sheared DNA end sequences search page:
http://www.tigr.org/tdb/mdb/tbdb/.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   9712 Medical Center Dr., Rockville, Tel: 301 838 0200 Fax: 301 838 0208
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Department of Eukaryotic Genomics
The Institute for Genomic Research
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      10.1 sheared DNA library
Unpublished (1999)
Other GSSs: Sheared DNA-46J23.TF
Contact: Najib M. El-Sayed
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 213
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               primer: M13-Reverse
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            /cione_lib="Sheared DNA"
/note="Vector: pUCl8; Site_l: Smal; Constructed at The
/note="Vector: pUCl8; Site_l: Smal; Constructed at The
Institute for Genomic Research (TIGR), Rockville, MD.
Genomic DNA isolated from a cloned population of
Trypanosoma brucel (TREU927/4 GUTat 10.1) was mechanically
sheared to give a tight size distribution (approx 2 kb).
The v + i method used for the library construction is
described in detail in Smith, H.O. and Venter, J.C.
(Making small insert libraries for whole genome shotgun
sequencing projects. In Genome Sequencing: A Practical
Approach, eds. M. Vaudin and B. Barell, Oxford University
Press, 1999)."
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Ø
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        /organism="Trypanosoma brucei"
/strain="TREU927/4 GUTat 10.1"
/db_xref="taxon:5691"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          /clone="Sheared DNA-46J23"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          8.1%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ü
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          0,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Score 45; DB 213;
Pred. No. 0.4;
0; Mismatches 220;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             10 g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               383 t
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         MD 20850,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Length 641;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Gaps
                                                                                                                                                                                                                                                                                                                                                254
                                                                                                                                                                                                                                                                                                                                                                                                                  194
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1;
                                VERSION
                                                                                                                                                                                                                                         Š
                                                                                                                                                                                                                                                                           밁
                                                                                                                                                                                                                                                                                                          δÃ
                                                                                                                                                                                                                                                                                                                                                밁
                                                                                                                                                                                                                                                                                                                                                                              ρ
                                                                                                                                                                                                                                                                                                                                                                                                                  В
                                                                                                                                                                                                                                                                                                                                                                                                                                                 δõ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       VERSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TITLE
```

```
RESULT 12
CNS0072R/c
LOCUS
    KEYWORDS
SOURCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              REFERENCE
AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            KEYWORDS
SOURCE
                                                                                                                                    DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             BASE COUNT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Query Match
Best Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 source
                                                                                                                                                                                                                                                                    217
                                                                                                                                                                                                                                                                                                             406
                                                                                                                                                                                                                                                                                                                                                                                                    346
                                                                                                                                                                                                                                                                                                                                                                                                                                               337
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        286
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    397
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               226
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        457
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    166
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Local Similarity
                                                                                                                                                                                                                                                                                                                                                                               TTCTTATCAATAATAGCATATTTCATAGCTATATCAATACTTGACAAATCATGGATAGCT 405
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CTTTATTCGTGGAGTAGAGTTAAAGGATCTTTAATCATATCCATGGGTGTATTTCTTAAC 285
                                                                                                                                                                                                                                                                    TTGGTGGTATAAAGAGGAATATTTGC 192
                                                                                                                                                                                                                                                                                                             GTTCTACTAATAATAGGTCATATTGC 431
                                                                                                                                                                                                                                                                                                                                                                                                                                           GTATTGAAAATTAWTTAGTTTGTGATTTTTTTTTTTTGTTWATTGGTTAWTGATATATWTAATT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    GTTWTTTWGTTAWTTAAAWTTAGWWTGAGTWTAAGTATTGTAAAWTGTTWTTTTKTTTWT 338
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ATATTWIWTGTAAATTATAWWTTTTTTGCCAGAGATTGAWTTTCTTTWTGTTTAGAAT 398
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ATATTCAATCTAGGTCTTGCAATTGGTGGGATACTAATTGTTATAGTTGGTTTAAGAAAT 225
                                                                                                                                                                                                                                                                                                                                                        TTTTTTTTTTWTATTCTTTGGWWTTTTAGWTWTTTATTTACTTTATWAGTTTTATTTTGTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TTAATTAGGGGTTTTCGACGAAGTATATGGTTTGGATACATTTTCCTAGTCTCAGTATTGTTT 345
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          115;
GSS.
fruit fly.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Web: www.genoscope.cns.fr)
Determination of this BAC-end sequence was carried out as part of a collaboration with the European Drosophila Genome Project (EDGP)-http://www.edgp.ebi.ac.uk - This Drosophila melanogaster BAC library (Dros BAC) was made by Alain Billaud at CEPH (Centre d'Etude du Polymorphisme Humain) with funding provided by a MRC project grant. The DNA was prepared from embryos by Alain Bucheton and Genevieve Payan. It has been constructed in the vector
                                                                                                           Drosophila melanogaster genome survey sequence TET3 end of BAC # BACR14E13 of RPCI-98 library from Drosophila melanogaster (fruit
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Plasmid Drosophila melanogaster
Eukaryota; Metazoa; Arthropoda; Tracheata; Hexapoda; Ins
Pterygota; Neoptera; Endopterygota; Diptera; Brachycera;
Muscomorpha; Ephydroidea; Drosophilidae; Drosophila.
1 (bases 1 to 982)
                                                                  rry), genomic survey sequence ALO66743
                                                                                                                                                         CNS0072R
                                           AL066743.1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Submitted (23-JUL-1999) Genoscope - Centre National de Sequencage BP 191 91006 EVRY cedex - FRANCE (E-mail : seqref@genoscope.cns.fr
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          fly), genomic survey sequence. AL103027
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Drosophila melanogaster genome survey sequence SP6 end of BACN10L03 of DrosBAC library from Drosophila melanogaster
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            pBeloBAC11.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Direct Submission
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     AL103027.1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CNS013M1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             466
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        /clone_lib="DrosBAC"
/clone="BACN10L03"
/note="end : SP6"
a 155 c 56 g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               /plasmid="pBeloBAC11"
/db_xref="taxon:7227"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            /organism="Drosophila
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 8.1%;
43.2%;
                                                                                                                                                         988 bp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   982 bp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Score 44.8; DB Pred. No. 0.47;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          melanogaster"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             252
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Drosophila melanogaster (fruit
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   BB
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Ċ,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             134;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      229;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             53
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Length
                                                                                                                                                         03-JUN-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 26-JUL-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            BAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            part of a
                                                                                                                                                                                                                                                                                                                                                                                                                                           278
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          0;
```

```
REFERENCE
AUTHORS
                                                                                                                                                                                                             Ş
                                                                                                                                                                                                                                                    망
                                                                                                                                                                                                                                                                                   Ş
                                                                                                                                                                                                                                                                                                                          밁
                                                                                                                                                                                                                                                                                                                                                        δÃ
                                                                                                                                                                                                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                                                                                                                                                                                                              δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         В
 VERSION
KEYWORDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    BASE COUNT
ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  COMMENT
                                                                                                                                                                               밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 FEATURES
                                    ACCESSION
                                                                        DEFINITION
                                                                                                       FR0042156
                                                                                          COCUS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Matches 117;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              source
                                                                                                                                                                               568
                                                                                                                                                                                                                  338
                                                                                                                                                                                                                                                                                                                                                         218
                                                                                                                                                                                                                                                                                                                                                                                                                                 158
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     808
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         868
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      98
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            38
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Determination of this BAC-end sequence was carried out as part of a collaboration with the Berkeley Drosophila Genome Project (BDGP). The BDGP is constructing a physical map of the Drosophila melanogaster genome using these BACs. For further information please see http://www.fruitfly.org The BDGP Drosophila melanogaster BAC library was prepared by Kazutoyo Osoegawa and Aaron Mammoser in Pieter de Jong's laboratory in the Department of Cancer Genetics at the Roswell Park Cancer Institute in Buffalo, NY. The library is named RPCI-98 and was constructed by partial EcoRI diseastion of Drosophila DNA provided by the BDGP from the isogenic strain y2; cn bw sp, the same strain used for the BDGP's Pl and EST libraries. A more detailed description of the library and how to order individual BAC clones, the entire library, or filters for hybridization from the BACPAC Resource Center can be found at http://bacpac.med.buffalo.edu/drosophila_bac.htm.
                                                                                                                                                                                                                                                                                                                                                                                                               TIGCTCCAATATTCAATCTAGGTCTTGCAATTGGTGGGATACTAATTGTTATAGTTGGTT 217
                                                                                                                                                                                                                TATTGTTTTTCTTAT 352
                                                                                                                                                                                                                                                                                                                                                                                              WTRTTTGWATATWARAATTARGAWATAARAGTTGTTRATAWATDTTTTTTTTTTTTTTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TATTTATTCTCAGCTTTTCCTTTCCCATTAACAATGATCGCATTAGCTATCTCTATGTCGT 97
                                                                                                                                                                               AWWWTTTTTTWWW
                                                                                                                                                                                                                                                                                 TTCTTAACTTAATAGGGGTTTTCGACGAAGTATATGGTTGGATACATTTCCTAGTCTCAG 337
                                                                                                                                                                                                                                                                                                                        TTKTKTTTTTTTTTTTTGGDWTTTTKAWWTTGTRTGTKGAAAGKTTTTKTTTRAGRAWT
                                                                                                                                                                                                                                                                                                                                                         TAAGAAATCTTTATTCGTGGAGTAGAGTTAAAGGATCTTTAATCATATCCATGGGTGTAT 277
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CATGGTTTAATATGGAATAATGCATTAAGCGATCTAGGACATGCTGTTAAAAGCAGTG 157
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TWITKTTTTTTTTTTTTTTTTTTTGWKARWITTKTTTTTTTTTTTTTTTTTTTTTTGRGART 809
 sequence.
AL129648
AL129648.1
GSS; genome
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           BP 191 91006 EVRY cedex Fine Web : www.genoscope.cns.fr)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Drosophila melanogaster
Eukaryota; Metazoa; Arthropoda; Tracheata; Hexapoda; Ins
Pterygota; Neoptera; Endopterygota; Diptera; Brachycera;
Muscomorpha; Ephydroidea; Drosophilidae; Drosophila.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Submitted (02-JUN-1999) Genoscope - Centre National de Sequencage BP 191 91006 EVRY cedex - FRANCE (E-mail : segref@genoscope.cns.fi
                                                                    FR0042156
Fugu rubripes
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Direct Submission
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Genoscope
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          (bases 1 to 988)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       462
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Conservative
genome
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      /organism="Drosophila melanogaster"
/db_xref="taxon:7227"
/clone_lib="RPCI-98"
/clone="BACR14E13"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   /note="end : TET3"
175 c 86 g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Location/Qualifiers
                  GI:6111594
survey sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            8.1%;
                                                                        491
GSS
                                                                                                                                                                               554
                                                                    bp DNA sequence,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             40; Mismatches 158;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Score 44.8; DB 229; Pred. No. 0.47;
                                                                    clone 151J19dCl, genomic survey
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       159
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ,t
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     106 others
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 segref@genoscope.cns.fr
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Insecta;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                part of a
                                                                                                                                                                                                                                                                                                                                                                                              689
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             0
                                                                                                                                                                                            VERSION
KEYWORDS
SOURCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     REFERENCE
AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Ъ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             QΥ
                                                                                                                                                                                                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                               Ъ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  д
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                δÃ
                                                                                                         REFERENCE
                                                                                                                                                                                                                                                                                                                    FR0042075/c
                                                                                                                                                                                                                                                                                                                                         RESULT 14
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                BASE COUNT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             COMMENT
                                                                                                                                                                                                                                                                                   DEFINITION
                                                                                                                                                                                                                                                                                                       Locus
                                   JOURNAL
                                                     TITLE
                                                                                      AUTHORS
                                                                                                                                                                             ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   source
                                                                                                                                                                                                                                                                                                                                                                                                                              387
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 258
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          267
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             207
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       V_type:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Vector:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         One
                                                                                                                                                                                                                                                                                                      FR0042075
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         DESCR:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            PRIMER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              128
```

```
147 TAAAAGCAGTGTTGCTCCAATATTCAATCTAGGTCTTGCAATTGGTGGGATACTAATTGT 206
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          198 CGTTGTTATTGTTATTTATTATTATTGTCATTAGATAATGATTAATTGTTATTATT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          318 ATTGTCATCATTATTATTGTTATTA 345
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             78 TAGTAGTAGTATTATTAGTATTATNATTAGTAGTAGTATTATTAGTATTATTAGTAG 137
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CCTAGTCTCAGTATTGTTTTTCTTATCAATAATAGCATATTTCATAGCTATATCAATACT 386
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TGACAAATCATGGATAGCTGTTCTACTA 414
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CATGGGTGTATTTCTTAACTTAATAGGGGTTTTCGACGAAGTATATGGTTGGATACATTT 326
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TATAGTTGGTTTAAGAAATCTTTATTCGTGGAGTAGAGTTTAAAGGATCTTTAATCATATC 266
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ACTATACGCAGTATTATTCTGAGTATTATTAGTGGCATTATTATAATCATTATTATT
     Direct Submission
Direct Submission
Submitted (11-OCT-1999) MRC Human Genome Mapping Project Resource
Submitted (11-OCT-1999) MRC Human Genome Mapping Project Resource
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Fugu rubripes.
Fugu rubripes.
Fugu rubripes
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Actinopterygii;
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Actinopterygii;
Neopterygii; Teleostei; Euteleostei; Acanthopterygii; Percomorpha;
Tetraodontiformes; Tetraodontoidei; Tetraodontidae; Fugu.
                                                                                          Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Actinopterygii; Neopterygii; Teleostei; Euteleostei; Acanthopterygii; Percomorpha; Tetraodontiformes; Tetraodontoidei; Tetraodontidae; Fugu. 1 (bases 1 to 502) Elgar,G., Clark,M.S., Smith,S., Meek,S., Warner,S., Edwards,Y.J.K., Umrania,Y., Williams,G. and Brenner,S.
                                                                                                                                                                                                                                                                                                AL129567
AL129567.1 GI:611:
GSS; genome survey
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Submitted (11-OCT-1999) MRC Human Genome Mapping Project Resource Centre, Hinxton, Cambridge, CB10 1SB. UK Email:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Direct Submission
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1 (bases 1 to 491)
Elgar,G., Clark,M.S., Sn
Umrania,Y., Williams,G.
Centre, Hinxton, Cambridge, biohelp@hgmp.mrc.ac.uk
                                                                                                                                                                                                                                                 Fugu rubripes
                                                                                                                                                                                                                                                                                                                                                                                                     Fugu rubripes
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            biohelp@hgmp.mrc.ac.uk
                                                                                                                                                                                                                                                                           Fugu rubripes.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               pass dye-terminator sequencing of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   pBluescript II KS
phagemid
KS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            /organism="Fugu rubripes"
/db_xref="taxon:3103"
/clone_lib="cosmid 151J19"
/clone="151J19dC1"
a 58 c 68 g 211 t
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Location/Qualifiers
                                                                                                                                                                                                                                                                                                                               GI:6111513
                                                                                                                                                                                                                                                                                                                                                                                                     502
GSS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     8.0%;
                                                                                                                                                                                                                                                                                                                                                                                                                          dq
                                                                                                                                                                                                                                                                                                                                                                                                     sequence,
                                                                                                                                                                                                                                                                                                   sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                0,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Score 44.6; DB 232;
Pred. No. 0.48;
0; Mismatches 140;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Smith, S., Meek, S., 3. and Brenner, S.
                                                                                                                                                                                                                                                                                                                                                                                                                             DNA
                                                                                                                                                                                                                                                                                                                                                                                                     clone 151J19cC11,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 211 t
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  cosmid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 26
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Warner,S.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 others
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  cloned
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               491;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               genomic
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Edwards, Y.J.K.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       257
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           0;
```

```
JOURNAL
MEDLINE
COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 RESULT 15
AU086530/c
LOCUS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  BASE COUNT
ORIGIN
                                                                                                                                                                                                                                                                                                                                                                   REFERENCE
AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                         KEYWORDS
SOURCE
ORGANISM
                                                                            FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 망
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      VERSION
                                                                                                                                                                                                                                                                                                                                                   TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Query Match 8.0%;
Best Local Similarity 46.6%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Matches
                                                    source
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   source
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               327
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           147 TAAAAGCAGTGTTGCTCCAATATTCAATCTAGGTCTTGCAATTGGTGGGATACTAATTGT 206
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            235 ATTGTCATCATTATTATTGTTATTA 208
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    387
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     355
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       267
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  207
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CCTAGTCTCAGTATTGTTTTTCTTATCAATAATAGCATATTTCATAGCTATATCAATACT 386
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TGACAAATCATGGATAGCTGTTCTACTA 414
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ACTATACGCAGTATTATTCTGAGTATTATTAGTGGCATTATNATAATCATTATTATTATT 236
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CGTTGNTATTGTNATTTATTATTATTGTCATTAGATAATAATGATTAATTGTTATTATT 296
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CATGGGTGTATTTCTTAACTTAATAGGGGTTTTCGACGAAGTATATGGTTGGATACATTT 326
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TAGNATTATTAGTATNATTACTATTACTATTATTATTATTATTACTATTATTATNAT 356
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TATAGTTGGTTTAAGAAATCTTTATTCGTGGAGTAGAGTTAAAGGATCTTTAATCATATC 266
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TAGNAGNAGTATTATTAGTATTANTATTAGTAGTAGTATTATTAGTAGTAG 416
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   125;
                                                          Email: jwatanab@manage.ims.u-tokyo.ac.jp
Suzuki,Y., Yoshitomo-Nakagawa,K., Maruyama,K., Suyama,A. and Sugano,S. Construction and characterization of a full length-enriched and a 5'-end-enriched cDNA library Gene 200 (1-2), 149-156 (1997).
Location/Qualifiers
                                                                                                                                                                     Contact: Junichi Watanabe
Institute of Medical Science
The University of Tokyo, Department of Parasitology
4-6-1, Shirokanedai, Minatoku, Tokyo 108-8639, Japan
Tel: 81-3-5449-5378
Fax: 81-3-5449-5410
                                                                                                                                                                                                                                                                                                      Watanabe,J., Sasaki,M., Suzuki,Y. and Sugano,S.
FULL-malaria: a database for a full-length enriched cDNA library
from human malaria parasite, Plasmodium falciparum
Nucleic Acids Res. 29 (1), 70-71 (2001)
                                                                                                                                                                                                                                                                                                                                                                                           Plasmodium falciparum
Eukaryota; Alveolata; Apicomplexa; Haemosporida;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      AU086530 500 bp mRNA
AU086530 Sugano Malaria cDNA library Plasmodium
clone XPFn2718, mRNA sequence.
AU086530
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Vector: pBluescript II
V_type: phagemid
PRIMER: KS
                                                                                                                                                                                                                                                                                          20574754
                                                                                                                                                                                                                                                                                                                                                                                                                                            malaria parasite P. falciparum.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    AU086530.1 GI:12388671
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        sequence.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        One pass dye-terminator sequencing of cosmid cloned genomic
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              DESCR:
                                                                                                                                                                                                                                                                                                                                                                                     (bases 1 to 500)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      210
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                /organism="Fugu rubripes"
/db_xref="taxon:3103"
/clone_lib="cosmid 151J19"
/clone="151J19cCl1"
a 76 c 76 g 123 t
              /organism="Plasmodium
/strain="3D7"
/db_xref="taxon:5833"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   0; Mismatches 143; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Score 44.6; DB 232; Pred. No. 0.48;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       SS
                                falciparum"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    123 t
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    17
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  others
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Length 502;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           falciparum cDNA
                                                                                                                                                                                                                                                                                                                                                                                                       Plasmodium
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 0,
```

```
δÃ
                                                           Вb
                                                                                     δÃ
                                                                                                                      Db
                                                                                                                                                  Qy
                                                                                                                                                                                  DЬ
                                                                                                                                                                                                             Qy
                                                                                                                                                                                                                                               Вþ
                                                                                                                                                                                                                                                                                                                                                                                        BASE COUNT
ORIGIN
                                                                                                                                                                                                                                                                                                         Query Match
Best Local Similarity
Matches 120; Conserv
                            535 AAATCAT 541
                                                           475
                                                                                                                        345
                                                                                                                                                       415
                                                                                                                                                                                355 ATAATAGCATATTTCATAGCTATATCAATACTTGACAAATCATGGATAGCTGTTCTACTA 414
                                                                                                                                                                                                                                            465 GTGTTTTTTGAAAAATATGAATTGGCATAAGAATTTATAAAAATTATTATTATCATTATTA 406
                                                                                                                                                                                                                                                            295 GTTTTCGACGAAGTATATGGTTGGATACATTTCCTAGTCTCAGTATTGTTTTTCTTATCA 354
225 TAATCAT 219
                                                                           GCTATTCCCGAGTTATTAGCGGTATTCTCGTTTTTTACCATTCTATATAAGACAGTATTTT 534
                                                                                                                      TTATTATCATTATTAATGTTAATGCTTTTTTTNGCATTTGAATATACAAGTGATGAT
                                                                                                                                                   ATAATAGGTCATATTGCAATGTGGTATCTACACTTTGCTTCAGAGAGTTCCGAGAGGTGCT 474
                                                                                                                                                                                                                                                                                                                                                                                                 /clone="xPFn2718"
/clone_lib="Sugano Malaria cDNA
/dev_stage="erythrocytic stage"
244 a 58 c 47 g 149 t
                                                                                                                                                                                                                                                                                                            Conservative
                                                                                                                                                                                                                                                                                                                         8.0%;
48.6%;
                                                                                                                                                                                                                                                                                                         Score 44.4; DB 
Pred. No. 0.54; 
0; Mismatches 1
                                                                                                                                                                                                                                                                                                                                        DB 107;
                                                                                                                                                                                                                                                                                                         127;
                                                                                                                                                                                                                                                                                                                                                                                                                                   library"
                                                                                                                                                                                                                                                                                                                                                                                                     2 others
                                                                                                                                                                                                                                                                                                           Indels
                                                                                                                                                                                                                                                                                                                                        Length
                                                                                                                                                                                                                                                                                                         0;
                                                                                                                                                                                                                                                                                                       Gaps
                                                                                                                      286
```

Search completed: May 30, 2001, 22:38:17 Job time: 5471 sec

THIS PAGE BLANK (USPTO)